

AC
Exclusive!



Allan Havemose of Amiga Inc., Amiga's next father? p. 48

Amazing / AMIGA[®]

COMPUTING™

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US \$3.95 Canada \$5.95

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Amiga Inc.'s Announcements!

Amiga Bridge, 4.0,
Convergenceware,
Amiga OS 5.0!



The
Latest
News
From

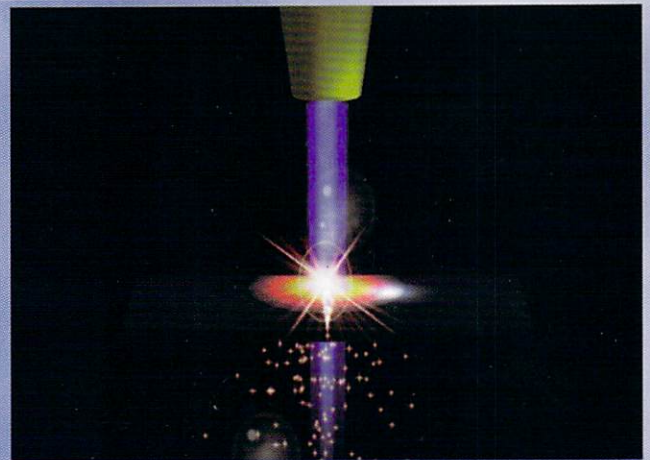
World Of Amiga
LONDON 98



5.0 conception shots

Aladdin 4D:

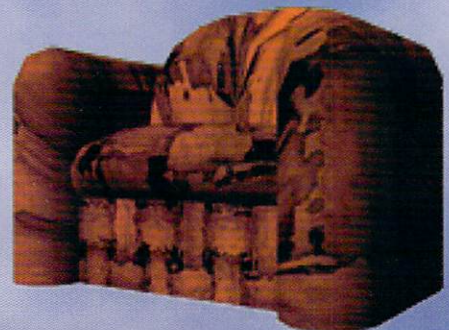
Cutting Torch Animation Project
Applying Textures
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Give your rendered art
a lived in look!, p.12



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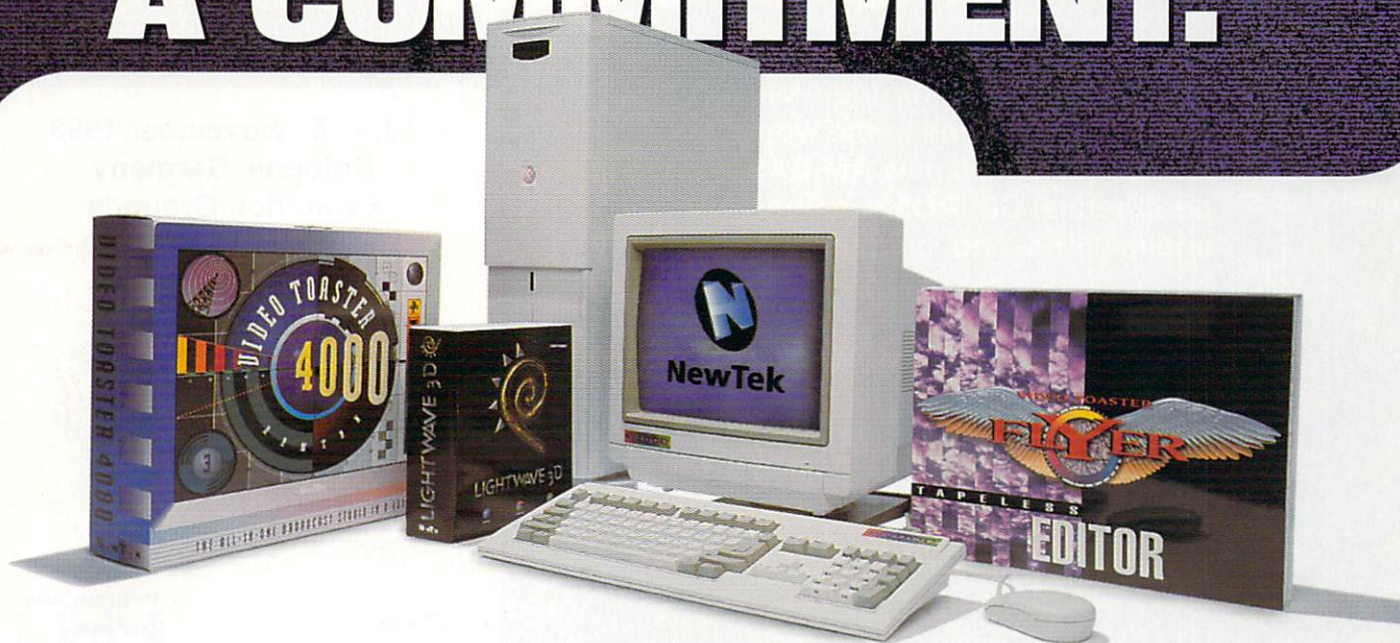
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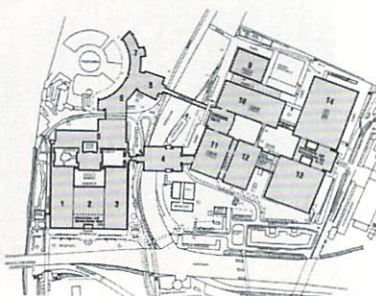
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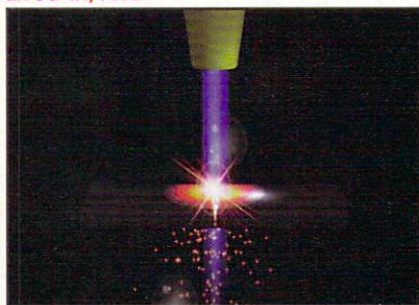
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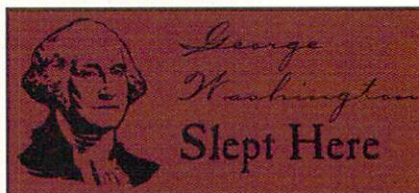
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Announcements

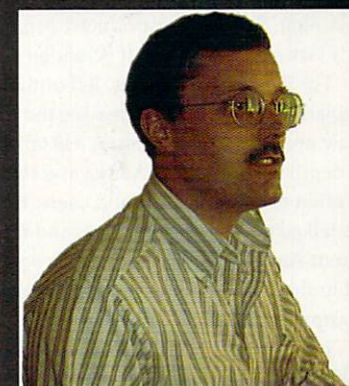
Amiga Inc. has an approved plan: Amiga Bridge, 4.0, Convergenceware, Amiga OS 5.0, and more!



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LONDON 98

The latest news and releases from the world's second largest Amiga show.



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Dr. Allan Havemose, Head of Development for Amiga Inc., is this the next father of the Amiga's next generation?

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Two Paths, One Direction!

Sometimes you know when history is being created. Sometimes you can see the larger picture developing right before your eyes. And sometimes, you can't see the forest for the trees.

The World of Amiga was just such an event. May 15th had been heralded for some time as the key point when Amiga Inc. would let the rest of the world in on their plan. We had seen glimpses of their direction in Jeff Schindler's speech at the St. Louis Amiga Gateway show in March. But, to date, there had been no concrete, "This is the way we are going!" statement from Amiga Inc. The market wanted an answer and May 15th was it.

I arrived only a few minutes early, but they were still preparing. I mingled with other Amiga press writers and editors from across Europe for a few minutes and then we were escorted into a large room with at least a hundred chairs. A small podium stood at the front of the room with a projection screen off to one side.

Petro Tyschtschenko, of Amiga International, thanked us all for coming and reminded us that it was one year before that Gateway 2000 had become the owners of the Amiga. Petro then introduced Amiga Inc.'s General Manager, Jeff Schindler.

For the next 45 minutes, Jeff outlined the plans of the Amiga (please see the article on page 42 of this issue). He talked of the depth of love for the Amiga and the devotion of its developers and users. He also talked about the need to expand the current Amiga platform "out of the box" and to think of the Amiga as more than just a computer platform.

Jeff focused on the key purpose and desire he saw for the Amiga which was the digital convergence market. This was not at all surprising, Jeff had been the individual who had lead the creation of Destination TV at Gateway 2000. Destination TV (as we have reported for sometime) is Gateway 2000's combined PC and television appliance.

Jeff then told the assembled press how Amiga Inc. would accomplish this goal in as little as 18 months. First they would combine their efforts with that of a qualified

third party OS and use the best of both the Amiga and this undisclosed new partner to create Amiga OS 4.0. This would be available as a PCI based Amiga working on an x86 machine for less than \$1000 by November '98. Amiga OS 4.0 would be replaced by Amiga OS 5.0 by the end of 1999. The Amiga OS 5.0 would reside on a new, unnamed silicon product (chip or set of chips) that would allow the Amiga OS to operate at incredible speeds, on a variety of applications, in an assortment of platforms.

Chiefly, Jeff Schindler had given the Amiga community exactly what they had been hammering for months: a direction, a series of steps to get there, and a destination that not only made the Amiga on par with other platforms, it allowed it to exceed them. The problem was too many people got trapped by a few things they heard and did not hear the rest.

Not a PC

Although it had been stressed by Jeff in his presentation that the x86 Amiga Bridge was only a development system and that it was used to mimic the new software and silicon still in development, most of the response from the audience was that Amiga Inc. (read Gateway 2000) was trying to sell them a PC.

Jeff clearly stated that the current microchip manufacturer they were dealing with was not going to be their only platform. Amiga Inc. would continue to investigate other microchip possibilities in order for the Amiga OS 5.0 to be spread over as many CPUs or their equivalents as possible. Yet, many assumed that the x86 and some unnamed derivation was where the Amiga was headed.

Schindler and company spent the rest of the weekend providing damage control and speaking with the press and developers to try and explain more clearly their position and the direction. By the end of the conference, they had been able to bring many of their critics back to their original statements. However, the main thrust of these problems were still being spread on the internet by "knowledgeable" people who had attended at least one of the events.

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Understandable Differences

There are a lot of reasons why this message could be misunderstood. First, many people have already purchased expansion and accelerator cards for their Amigas. The PowerPC was announced as the next processor for the Amiga, however, Amiga Inc. did not mention the Amiga directly and they also would not give any details on the new silicon. Amiga Inc. was concerned that news of their efforts would reach the ears of other platform developers and they did not want to tip their hand.

Second, Amiga Inc.'s OS partner was to be a major part of their announcement. Unfortunately, final details could not be addressed at the last minute and Jeff was forced to remove a third of his presentation. This meant that the press kits had to be rewritten and the presentation extremely modified all literally overnight.

When Jeff addressed an audience who was hearing what they had wanted to hear, he was forced to bracket some of his best material with unknown chip developers and an unnamed partner. This allowed everyone to focus on what was a minor step, the Amiga OS 4.0 on the Amiga Bridge card.

Power PC Support

Some good did come from the confusion. Haage&Partner and phase5 have announced that they are working together to continue support for the Amiga Classic and PowerPC. Less known is where the PowerPC fits in the Amiga OS 5.0 scenario, but, according to Wolf Dietrich of phase5, there are possibilities.

As far as the current Amiga users and system 3.1 (now known as the Amiga Classic), Amiga Inc. had always planned for the continued support of the platform in both Amiga 4.0 and Amiga 5.0. This would be accomplished both by software emulation and, in some cases, hardware emulation.

At the end of the day

"At the end of the day" is a saying I heard a lot in reference to the Amiga. Amiga Inc. held an informal press meeting at the close of the show on Sunday. Jeff went over the points that he had originally raised and the things that had come from the conference.

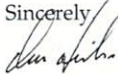
They now have a plan. Gateway 2000 has approved the plan and their funding. They have established a target wide enough to satisfy the entire Amiga niche and more, digital convergence systems for

the consumer market. They have a developer program, new partners, new personnel, and a hope for the future.

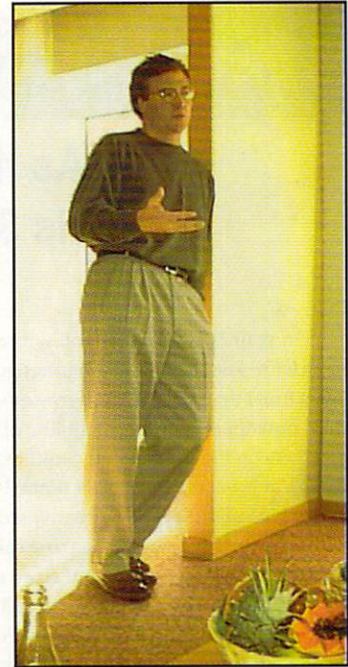
For the first time in five years, the Amiga has a company willing to keep producing the Amiga, expand its Operating System, and move the platform into the areas it should have occupied years ago. We have a ways to go, but at least we have a direction.

With the Amiga Classic being promoted by Amiga Inc. and now developers as well as the promise of Amiga 5.0, we now have two paths and one direction. The Amiga has opportunities for both growth and stability. We can bring the best with us and develop the next level of applications. The only unfortunate part was that it took so long for all of the participants to reach this position.

Like I said, sometimes you are there to see history happen. And sometimes, you can't see the forest for the trees.

Sincerely,


Don Hicks
Managing Editor



Jeff Schindler provided updates to the press on both Saturday and Sunday of the WOA.



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FEEDBACK

As the Amiga's Frontier Changes, PPC Is Still the Way to Go for Some Users!

Dear AC,

In your May editorial you wrote that in order to keep the Amiga market growing users must upgrade. I can't agree more and right now there is an excellent line of products on the market that could make the Amiga at least as fast as most home PCs. I'm talking about phase 5 (finally) shipping what one British Amiga magazine called "the most important (product) since the A1200": the PowerPC cards for A4000, A1200 and soon for A2000 owners. For what a good A1200 '030/82 accelerator cost five years ago you can now get a PowerPC card for under \$400 that is much faster than the fastest '060 board. It looks like a solid product along with some evolving software like the OpenGL clone, CyberGL, and plans for Display PostScript support that are filling in some areas where work is needed on the Amiga OS.

There is a lot of interest in PPC from developers judging from discussions on the Internet. Right now there aren't enough PPC cards out there to justify writing for them exclusively. Some developers like Nova Design have committed to supporting PPC now that the SAS/C compiler can create PowerPC code. Others are working on special versions of games that take

advantage of the increased processing power. As well, in the announcement from Vulcan software, one point they make is that they are supporting "high spec" systems, specifically systems with PowerPC and graphics cards. ClickBoom is also saying that they are aiming for the high-end, again PPC and graphics cards. For A1200 users like myself, the planned graphics card add-on is almost as exciting—finally a fast 24-bit display for A1200 users! Why didn't someone do this years ago?

As mentioned in the April issue of *Amazing Computing/Amiga*, Index and phase 5 have made an agreement to support each other in bringing PPC to the BoXer. A while back it looked like the WarpOS didn't work with the newer PPC boards, Haage&Partner has released a new version that uses different drivers for each PPC card being released. So basically you get PowerUP standard on the BoXer and systems using the phase 5 cards like Nova Sector's tower Amigas. It seems like things on this front are clearing up: hardware developers are realizing that they can just drop in a PPC card and save themselves the trouble of developing their own PPC board. Meanwhile, I guess Haage&Partner will continue to release WarpOS drivers for whatever new PPC boards show up in the future.

In my opinion, getting a PowerPC card now is a good investment in the same way that an '030 or an few extra megs of RAM was back when high-end was the A3000. We then also have to tell developers that we have one or are getting one soon. I know programmers would love to work on a 166Mhz or better processor, possibly even finally having a real 24-bit display too, but they have to know that there is a market for their software too. Secondly we need to show companies like NewTek that there is still an Amiga market out there that they can make money on, providing they keep support us with products that support more than a vintage 1993 A4000.

In a way this is like when the A1000 came out, cool computer with little software, but some of us bought one because we knew that it was only a matter

of time before someone wrote DPaint or TurboSilver and then we'd know it was worth it. Having seen many of the things Amiga programmers have done on a computer that "the industry" has written off as obsolete technology, I can just imagine what we might do with some real horsepower.

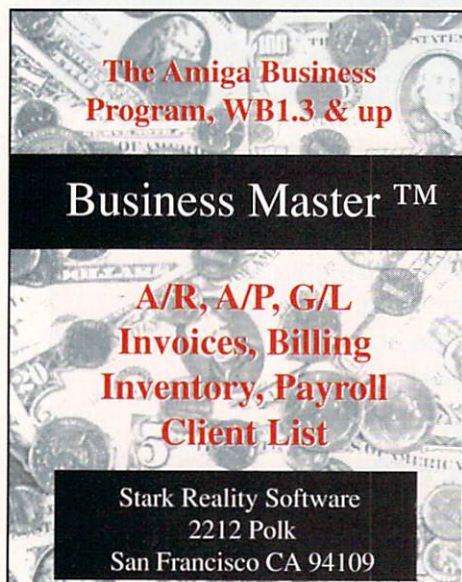
Lastly, on another topic, for Mr. Kocourek's question about Doom-style games, I'd recommend *Tricks of the Game Programming Gurus* published by SAMS. Unlike Quake, the Doom-style games do not use real 3D math, rather it uses tricks based around scaling a game like Wolfenstein 3D or the basics of Doom and comes with a CD of source code, much of it in C, though with some PC assembler. It's a few years old now and might be found in the discount bin.

Sincerely,
Zoltan Hunt
Toronto, Ontario Canada

You are still correct in your assessment, even with the latest news from Amiga Inc. The World of Amiga announcement by Amiga Inc. is for a system not due for 18 months (with a smaller developer version due in November). Meanwhile, phase 5 and Haage & Partner are now working together to make the PPC a part of the Amiga's current plans and a major player in its future. Wolf Dietrich of phase 5 was adamant (see the associate articles on World Of Amiga London) in his belief that the Power PC was up to the task of the proposed 5.0.

One thing to remember, the future will require all of us to switch to faster machines. Unfortunately that is a fact of life in our new electronic age. We cannot expect developers to provide crippled versions of their products to run on older equipment. Products such as the PPC help ease this transition and allow all of us to get an additional year of life from our Amigas.

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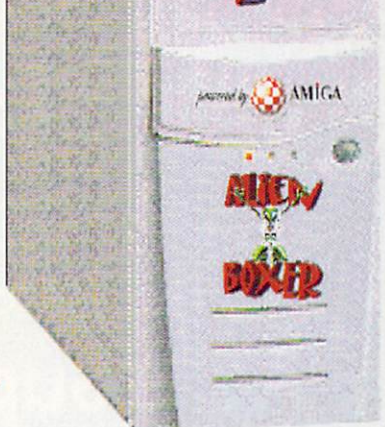
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Air Mail Pro v3.0, World News v1.0, Pan Canvas: Motion Control for ImageFX, and more!

NEW PRODUCTS

And Other Neat Stuff

Air Mail Pro v3.0

Toysoft Development Inc. has announced an update for Air Mail Pro. Air Mail Pro v3.0 is an advanced multi-threaded email client for Workbench 2.1 and higher. New features in v3.0 includes: Super Mail Box (a separate module for handling mail sending and retrieving), AmiNet file support, Cut/Copy/Paste in all string gadgets, and a new text editor allowing you to double click on an URL or FTP address and your web browser will take you there. Air Mail Pro v3.0 supports SPAM FREE email, signatures has been enhanced, a cache for all system folders for fast mailbox access, preferences has been reorganized for easier access, support for duplicate messages and many more features.

World News v1.0

Toysoft Development Inc. has also announced the release of World News v1.0. World News is a multi-threaded news reader for Workbench 3.1. Features in World News includes: entire usenet News Groups, user defined groups, user defined folders, complete address book, user defined filters and SPAM free filter, unlimited tags and signature.

World News also includes World News Spooler for background batch downloading of articles for offline reading. With Helper files you can view pictures, play animation or sounds. World News has a built-in mailer for sending email and forward-

ing articles. Flexible preferences allow you to customize World News. You can also file articles into Air Mail Pro's Inbox and use Air Mail Pro to reply to articles. Double clicking on an URL or FTP address will tell your web browser to goto that address.

Air Mail Pro v3.0 is \$40.00US plus \$5.00US shipping & handling charges. World News v1.0 is \$35.00US plus \$5.00US shipping & handling charges. Air Mail Pro v3.0 and World News v1.0 bundled is \$65.00US plus \$10.00US shipping & handling charges for both programs. International shipping and handling is \$7.00US.

Toysoft Development Inc., 131 - 64 Ave, N. W., Calgary, Alberta, T2K 0L9 Canada, Voice: 1-403-680-1656, E-Mail: danny@toysoft-dev.com, WWW: <http://www.toysoft-dev.com>



Genetic Species from Vulcan Software is now shipping

Catalyzer 2 For ImageFX: Compositing Video Tutorial

Following the success of the debut volume of the Catalyzer for ImageFX tutorial series, Legacy Maker, Inc. of Chicago, IL has announced Volume 2 of Catalyzer for ImageFX, its latest videotape product for Amiga computers. Legacy Maker looks at ImageFX as the engine, your Amiga's tank is full of gas and this video is the Catalyzer.

Learn about the power and secrets of ImageFX from one of its leading experts. Bohus Blahut, whose ImageFX knowledge is so extensive Nova Design entrusted him with the creation of their latest ImageFX demo tape, guides you through various compositing projects on this one hour videotape.

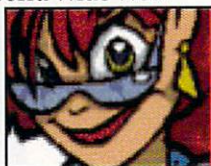
Catalyzer 2: Compositing explores ImageFX through project-based tutorials, beginning with an introduction to getting great results using simple brush cut-and-paste operations.

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The tape progresses to more advanced topics to help you generate stunning effects: complex merges, alpha channel effects, bluescreening and even rotoscoping to allow you to pull a subject out of any background! By the time the credits roll, you'll be ready to go to work.

Catalyzer 2: Compositing covers techniques for ImageFX 2 and 3.0, including a special look at 3.0's advanced CineMatte engine.

Kermit Woodall, VP of Nova Design, said Catalyzer For ImageFX Vol. 1 was, "An amazing tutorial video for ImageFX! It taught me things I didn't know about our own software!"

Catalyzer 2 For ImageFX includes a support floppy disk with all the material you'll need to follow along with the videotape, including example images, ARexx scripts, even the same font. Catalyzer 2's Suggested Retail Price is \$39.95 (include \$5.95 shipping in the US).

Pan Canvas:

Motion Control for ImageFX

Legacy Maker, Inc. of Chicago, IL also announced the commercial release of PanCanvas, the Motion Control plugin for ImageFX 2.6.

PanCanvas, by Ola Olsson, is a powerful tool to turn ImageFX into a professional-quality motion control station. Put simply, motion control involves "panning" across a still

image to create the illusion of animation. This technique is used liberally in documentaries and news profiles, to bring photographs and documents to life on the screen.

Just draw a frame over where you want your animation to start, and where you want your animation to end, and PanCanvas will smoothly crop your original image into an animated sequence. It's even easy for your virtual camera to zoom, follow curves and ease in and out of stops.

PanCanvas outputs a sequence of frames (IFF or JPEG) which can be used to generate Flyer clips, Amiga ANIMs, MPEGs, and more. It's easy to incorporate PanCanvas into your video editing suite.

PanCanvas includes PanPost, a post-processing engine to enhance your output. Full compatibility with ImageFX 3.0 will be made available as a free upgrade to all registered PanCanvas users. PanCanvas's Suggested Retail Price is \$35.95, plus \$3.95 shipping in the US.

Legacy Maker, Inc. P.O. Box 60711 Chicago, IL 60660, 773-465-5158, jcompton@xnet.com. The Catalyzer Vol. 2 homepage is at <http://www.xnet.com/~jcompton/catalyzer2.html>. Visit the PanCanvas website at <http://www.xnet.com/~jcompton/pancanvas.html>.

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MORE NEW PRODUCTS

World Of Amiga London 98

Please check the associated articles throughout this issue for new products and announcements from The World Of Amiga in London.

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That *Lived-in* Look

Often, computer generated art just looks too clean! LightWave 5 offers almost an infinite variety of ways to “dirt-up” your detailed computer generated imagery.

by R. Shamms Mortier

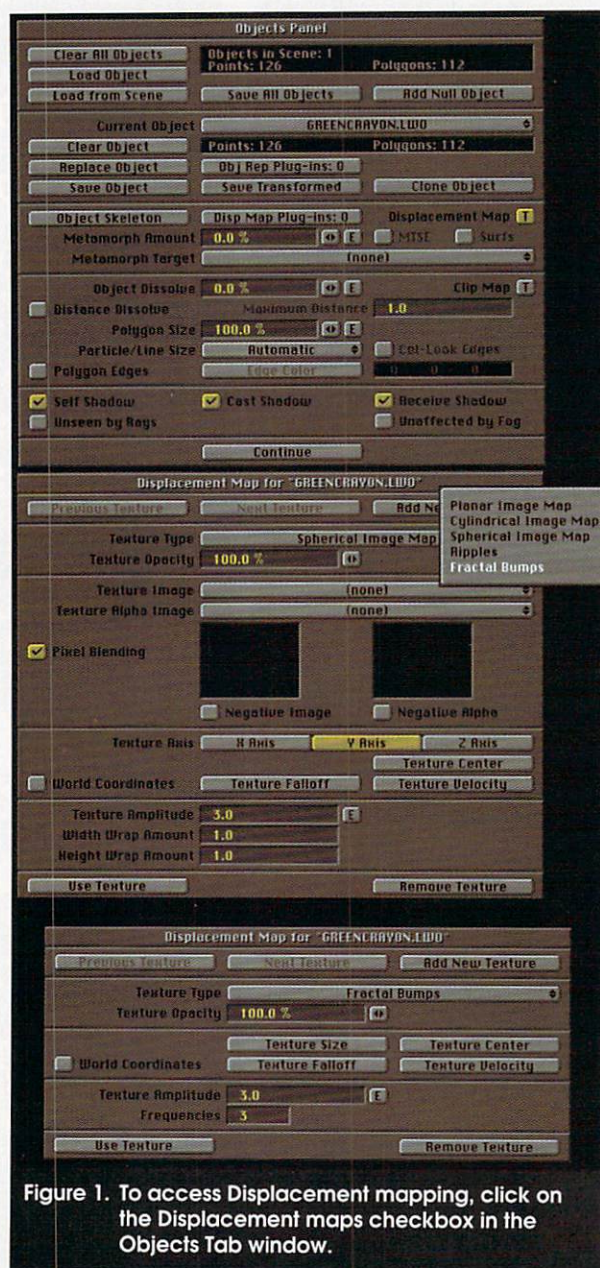


Figure 1. To access Displacement mapping, click on the Displacement maps checkbox in the Objects Tab window.

NewTek's LightWave 5 offers the LightWave user easier navigation, and some new creative effects options. In this article, our attention will be focused on how to use LightWave to make a room and furniture look used and worn, taking away some of that discernible and unreal glitz all too present in most computer generated imagery. It is, after all, more believable when the too-neat/too-perfect virtual world is traded off for the less perfect and lopsided look of the real world.

LightWave offers you two important ways to scruff up your objects and scenes. The first is displacement mapping, which effects the actual geometry of objects. The second method for creating worn and used objects is the application of multi-layered textures (a LightWave feature), which can be used to remove the unrealistic perfection and symmetry that robs a scene of its potential believability.

Displacement Mapping

Displacement maps alter the geometry of targeted objects, in effect by displacing the objects' polygons according to the luminance (brightness) values of an imported bitmap or an algorithmic texture. The effect should be kept subtle, unless you want the object to shred into a jumble of polygons. Too much displacement can also produce strange polygonal effects that refuse to render properly.



Figure 3. An upholstered chair 3D object, as loaded the first time, with a plain green color.

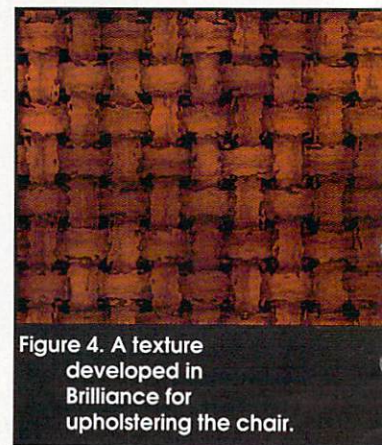


Figure 4. A texture developed in Brilliance for upholstery the chair.

As a precaution, objects that are to have displacements applied should always have their polygons translated to triangular surfaces in modeler first. Four sided polygons have a tendency to warp out of plane when displaced, causing the mentioned rendering artifacts.

The two most common procedural displacement textures offered in LightWave are Ripples and Fractal Bumps. If you would rather apply a displacement map based on your own

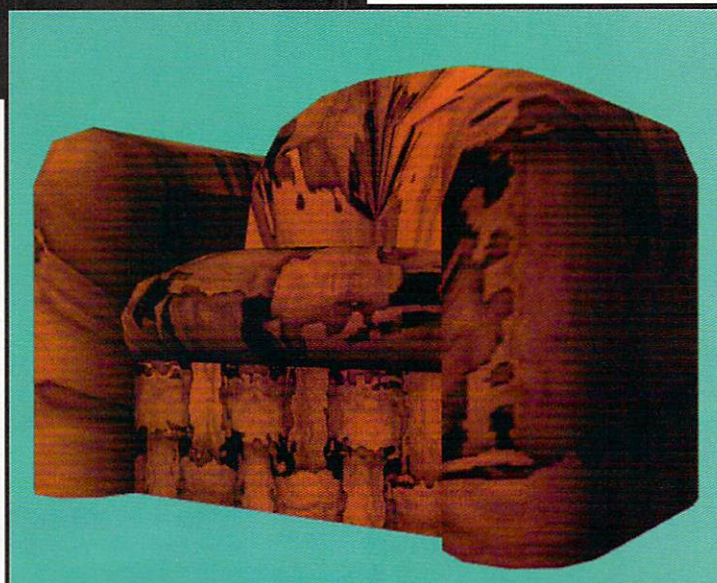
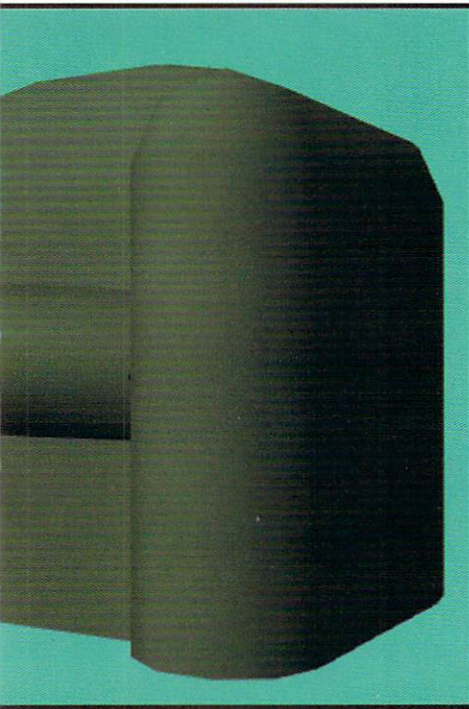


Figure 5. The Brilliance texture applied as a Spherical map to the chair in LightWave.

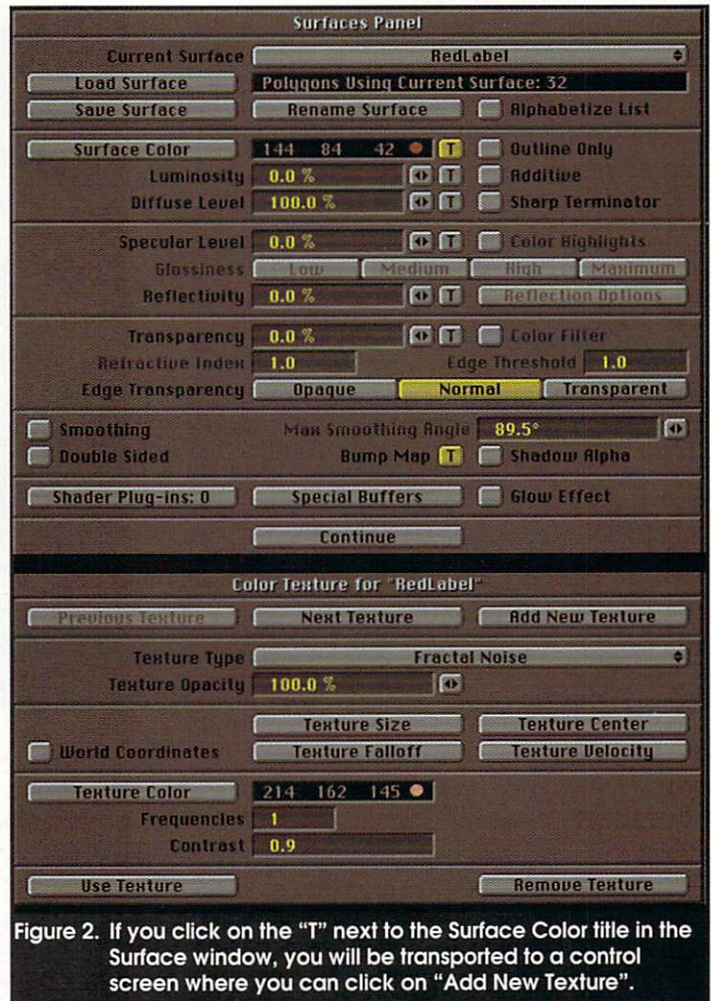


Figure 2. If you click on the "T" next to the Surface Color title in the Surface window, you will be transported to a control screen where you can click on "Add New Texture".

bitmap texture, it can be applied as a planar, cylindrical, or spherical map.

You have to experiment with displacement mapping in order to get the hang of it. Displacement maps can be adjusted by several numeric controls. The most important of these are opacity, amplitude, width wrap, and height wrap. You can also select which axis the texture is to use as a reference. All of this is accessed by going to the Objects tab, and once the object is selected from your scene, to the Displacement controls (just check on the Displacement Map box).

Different designs produce different displacement map looks. The best bitmaps to use are 256 color IFFs, though even two-color IFF images produce interesting displacements. Even 24-bit graphics are read in as 256 color grayscales when used as displacement textures. If you want to add just a little crumple to an object (which



Figure 6. Alternate textures explored for texture mapping the chair



is what we want to do), make sure the opacity setting stays below 10, with the best values ranging from 1 to 6 for subtle results. Settings from 10n to 100 make the object severely warped and unrecognizable. Amplitude should be kept at about 0.5, with width and height wrap open for exploration (depending upon the design of the texture map).

Leaving the Displacement Mapping control screen and returning

to the Layout screen, your adjustments are instantly displayed in the object's shape. Displacement mapping usually requires a fair amount of back and forth tweaking, until the object looks like you want. Applying subtle displacement maps to a 3D head in LightWave can give the features more character (try the Fractal Bumps for this purpose).

Multiple Textures

We will assume that as a LightWave user, you are familiar with applying textured surfaces to a selected 3D object. What you may not have explored yet is the option of layering textures one upon another, while adjusting the opacity of texture layers. This technique can be used to alter the computerized appearance that an object may display, transforming it into a much more "real" object. It's an



Figure 8. Notice the difference when a displacements map is applied to the same chair object after its polygons have been increased by 4X in LightWave Modeler. The effects are more variable when the polygons in an object are increased.



Figure 9. Here is the same chair shown in figure 8, but with a fractal texture overlayed at an opaqueness of 75% on top of the floral design, dirtying it up and giving it instant age. This object reminds me of some of the more weather-worn apartments I have lived in.



Figure 7 (Left). Using Displacement Mapping (Located in the Objects Edit panel), LightWave allows you to use a selected bitmap or procedural texture to alter the geometry of an object subtly or radically. Spherical Mapping displacement percentages applied to the upholstered chair here are 0, 50, 75, and a "Ripples" displacement map at 100%.

especially good way to emulate scuffing and a used, worn look.

For this purpose, I suggest using a second layer that is chosen from one of the procedural textures, specifically Underwater, Fractal Noise, Crust, or Veins. Add more than one of these, exploring the right opacities, and the result will be a 3D object with real character, and an object with a story to tell. For the best results, mix bitmaps and procedurals in a texture sandwich.

Look carefully at the accompanying figures and their captions to appreciate how to use these techniques on a roomful of furniture, transforming a neat but unbelievable computerized scene into a more believable urban hovel.

Enjoy! See you next time in ROMulan space...

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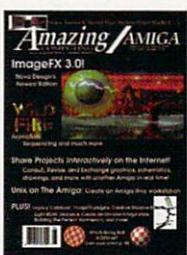
Figure 10 (Right). The top image shows the objects as loaded into the scene, with no alterations. In the middle picture, textures have been applied right out of the box. This room has the feel of a cheap hotel room: neat, but with no personality. In the bottom image, we may have applied too much personality, but it works as a contrast, displaying the scene with multiple textures and displacement maps applied. I'm not sure I'd like to sleep here.



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Don't Delay! Did You Miss Our June Issue?



Volume 13 Number 6 June 1998

New Products & other neat stuff, Video Toaster Flyer Systems Sale, Another User Group Deal, Amiga Soundtrack, and more!

ImageFX 3.0, Nova Design has once again proven the Amiga's graphic might, by R. Shamms Mortier.

The Legacy Catalyzer Videos and ImageFX Plugins, Tools in a new era of ImageFX and Amiga graphics, by R. Shamms Mortier.

Light ROM: version 4, 3,000 JPEG textures plus much more makes this a special addition to any Amiga artist's tool box, by R. Shamms Mortier.

Me & My Shadow, Creative shadow effects, by Nick Cook.

On Line, Updates to Miami and VoyagerNG plus, "count down days" with JavaScript, by Rob Hays.

This Old Workbench: Episode 18, Building the Perfect Workbench Part 1, Learn what all the Amiga's directories do and how to further "Shock-Proof" your system, by Dave Matthews.

AmigaOnLine.com NOTES: Safe Harbor is offering online stores to web sites, AmigaOnLine.com is delayed, and more.

Interactive Image Viewing on the Internet with the Amiga, Medical images, paintings, sketches, floor-plans, schematics, and more can be shared and revised online, by Michael Tobin, M.D., Ph.D.

Wildfire—Animation Sequencer, Assemble an animation, combine animations and stills, generate special effects, create transitions, and even add frame synchronized sound effects, review by Dave Matthews.

Unix on the Amiga, Turn your Amiga into a powerful Unix workstation. Preparing your system and gathering the software, by Antonello De Santis.

Which Boing Is Official? There are two Boing Balls used as the official emblem of the Amiga. Which would you like to see as the Amiga's main symbol?

Check Out The May Issue.



Volume 13 Number 5 May 1998

New Products & other neat stuff, Amiga 1200 Special User Group Promotion, Image FX 3.0 Ships, Seamless Textures, FontMachine 3, and more!

Boiler Plate Texture, Create the look, a special look for your next project that is so standard, it can work in a current industrial model or a futuristic movie, by R. Shamms Mortier.

Vintage Treasures, To an artist, a favorite paintbrush, though worn and frayed, may still serve as the essential tool in crafting a masterpiece, by R. Shamms Mortier.

Aladdin 4D: Save The Pixels! Beginning Tutorial, The basics of rendering your creations to disk with a few options to make your output more flexible, by Dave Matthews.

How to Create Perspective from a Flat Illustration, Changing your point of view, by Nick Cook.

This Old Workbench: Episode 17, Partitioning Your Hard Drive, A partitioned hard drive for flexibility and diversity, but caution is strongly advised, by Dave Matthews.

On Line, JavaScript 101: Starting this month, we'll look at some of the basics of JavaScript; what it can do, and how to use it, by Rob Hays.

Byte Sized Reviews, New York News Reader Version 1.240, an important tool for Amiga internet news access, by Lars Nelson.

Amiga Inc.'s Jeff Schindler at Gateway Amiga '98, Amiga Inc.'s General Manager discusses the current Amiga market and our future.

TurboPrint Professional 6.01, TurboPrint Professional 6.01 supports a wide range of printers, features and options to help you control the printer of your choice, by William Near.

Amiga '98, Over 1,000 Amiga enthusiasts from all over attended the first in a series of shows slated for 1998.

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Recent History! Did You Miss The April Issue?



Volume 13 Number 4 April, 1998

New Products & other neat stuff, Oxypatcher, Air Mail Pro 2.0, TurboCalc V5.0, Vote in AAA Awards, phase 5 and BoXer unite, and much more!

Aladdin 4D Tutorial #17: Blended Bitmap/Procedural Variations, It is time to enumerate the ways that texture sandwiches, built of any number or combination or procedurals and/or bitmaps, can be constructed by R. Shamms Mortier.

Byte Sized Reviews, Adobe Image Library and OUIJA by Nick Cook.

PixPro Pos & Neg, Is there life in this old Amiga program? You betcha! by R. Shamms Mortier.

MinDEYE, Create a light & sound show - without magic mushrooms or funny cigarettes by Nick Cook.

This Old Workbench: Episode 16 Special Workbench FX, A "Behind the Scenes" look at some of the special effects from This Old Workbench by Dave Matthews.

3D DTP Adding Depth to Your Favorite Clip Art, Don't let you clip art just lie there. Give it that extra dimension to make it stand out by Nick Cook.

On Line, JavaScript is now part of the Amiga by Rob Hyas.

Cinemorph Glows, When morphing think "keyframes" and the "in-betweens" to produce your result by R. Shamms Mortier.

QuikPak's Dave Ziembecki, A New Amiga Tower, A New Amiga OS, and AmigaOnLine highlight QuikPak's plans for the Amiga line.

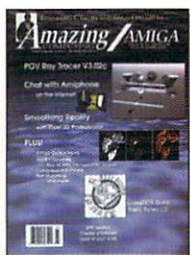
Games on the AMIGA, Vulcan redefines their Amiga game strategy by Peter Olafson.

Light-ROM Gold, The LightROM Gold CD-ROM is more than meets the eye by R. Shamms Mortier.

"I don't get a single technical journal that covers as much important information as your February issue did, even in magazines 10 times as thick. There was news in there that had not been made stale by the plethora of news on the Web."

Steve Shireman

High Praise! Did You Miss An Issue of AC?



Volume 13 Number 3 March, 1998

New Products & other neat Stuff, Developer book for Blitz Basic, Image FX3.0, Aminet resets, and more.

PowerPC, Joe Torre of Amiga Inc. on the Amiga's CPU direction.

Smoothing Reality, Smooth out life's bumpy roads (or at least those created by DFX 3D files) with Pixel 3D Professional by R. Shamms Mortier.

Chat with Amiphone, communicate with other Amiga friends but don't pay the high telephone bills! by Frederick R. Phillips II.

POV Ray Tracer 3.02c, 3D art on a budget! by Dave Matthews

On Line, Some of the extra goodies in the AWebII.

Hey! Who Tore My Amazing Computing/Amiga! Draw attention to your presentations with a *tattered* look by Nick Cook.

This Old Workbench: Episode 15 The Importance of Being small,

Compression software for the net or just to make room on your hard drive by Dave Matthews.

Games on the Amiga, Quake comes to the Amiga, plus an update on the Doom clones by Peter Olafson.

Games on the Amiga II, Part 2 of Peter's coverage on Amiga pioneer, Bill Williams by Peter Olafson.

Letter Morph Geometry, In animation, there are an infinite number of ways to get the effect you need. In this tutorial, we explore the use of text morphing in a variety of operations by R. Shamms Mortier.

Byte Sized Reviews, You can create pretty neat particle effects in your Amiga 2D painting software by Nick Cook.

And Furthermore...Technology and Community, With the world of computers and the Amiga available to us, our vision can grow by looking next door by R. Shamms Mortier.

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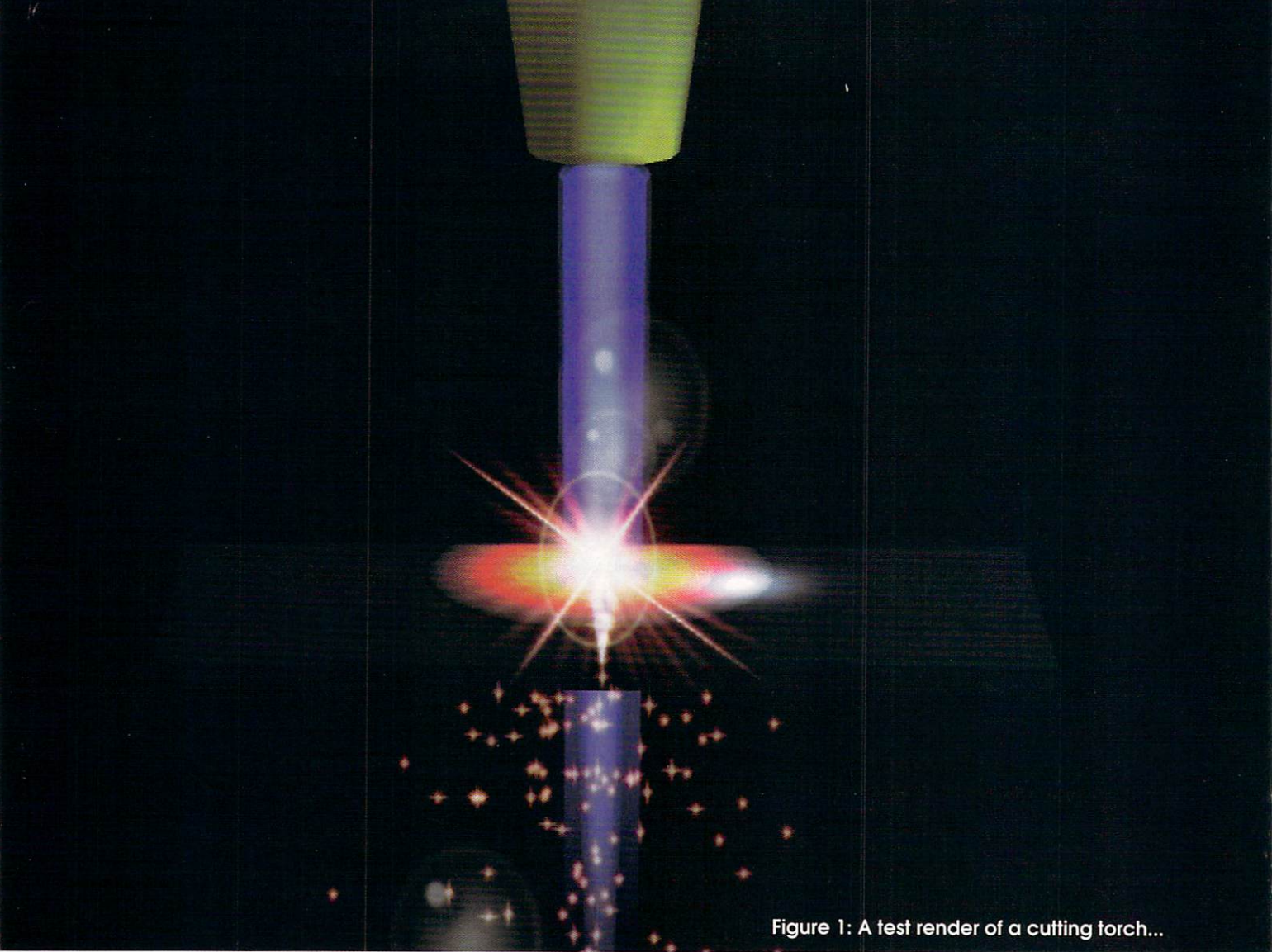
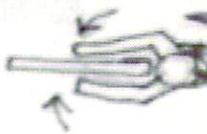


Figure 1: A test render of a cutting torch...

Aladdin4D: Cutting Torch Animation Project

Step 1: Creating an animation first requires a detailed knowledge of what the animation will do, what it will need, and how it will be used.



Tutorial by Dave Matthews

Last time I covered saving your Aladdin4D rendering to disk. Now we can move on to something a little more advanced. Rather than do a tutorial on a specific feature of Aladdin4D, I thought it might be more illuminating to do a series based on a project, from

start to finish. Recently I've been working on an animation of a cutting torch. See Figure 1 for a sample frame from this work in progress, and Figure 2 for a screenshot of the model. This is not intended to be the ultimate in great art or illustration, but does provide an

opportunity to use many of Aladdin4D features, and much of this can be applied to any Aladdin4D project: modeling, hierarchical animation with control splines, gases, fountains (particle systems), lens flares etc.

Brainstorms vs. Blueprints

There are two methodologies I use when working with Aladdin4D. Many times, I just fire up the program and play. This is really the best way to familiarize yourself with any program, sometimes you come up with something great, sometimes not, but it's always fun and usually instructive.

Often I'll have a vague idea for a project. In these instances, I often grab a sketchpad and pencil and flail away. The idea is to get your ideas down on paper as fast as possible, to keep the creative juices flowing, so don't worry about mistakes, and don't analyze or criticize your sketches at this point, that will come later. Once you've got the ideas down, then you can go back and select and refine the ones that you like.

But will it play in Peoria?

Don't forget your intended audience. As you move through the process of creating your animation, keep your intended goal in mind. Don't be afraid to change something if it doesn't move you toward your goal.

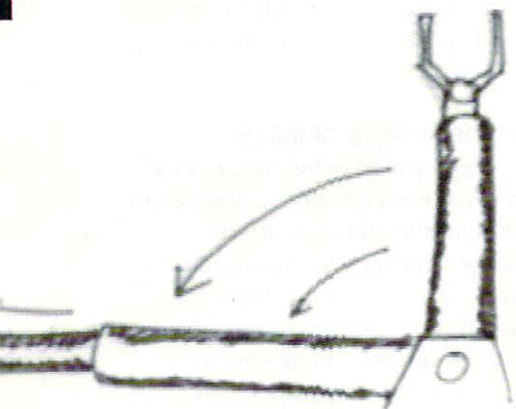


Figure 3: A Preliminary sketch

It Looks Good on Paper

With a specific project in mind, it's usually best to do some further planning before diving into the program itself. Again the pencil and pad of newsprint comes in handy for these occasions. For an animation, a story board is the tried and true method. A story board is basically a

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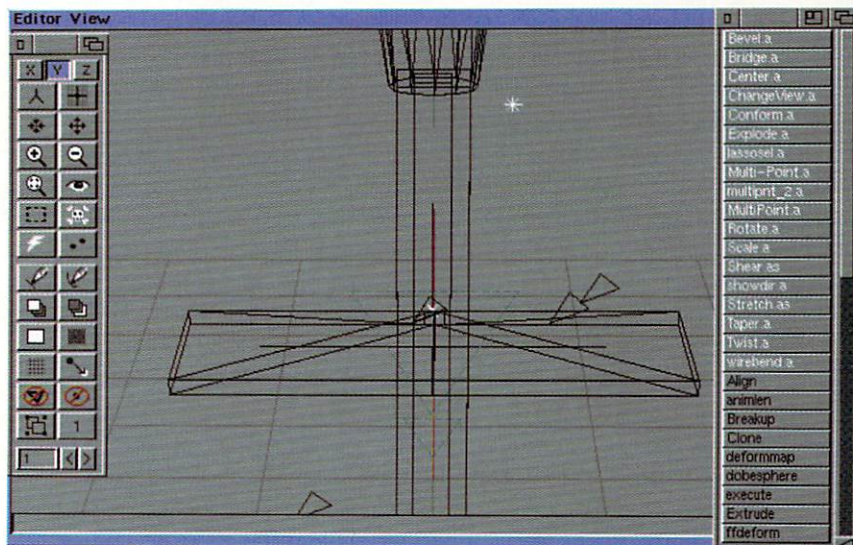


Figure 2: The Aladdin 4D model of the cutting torch

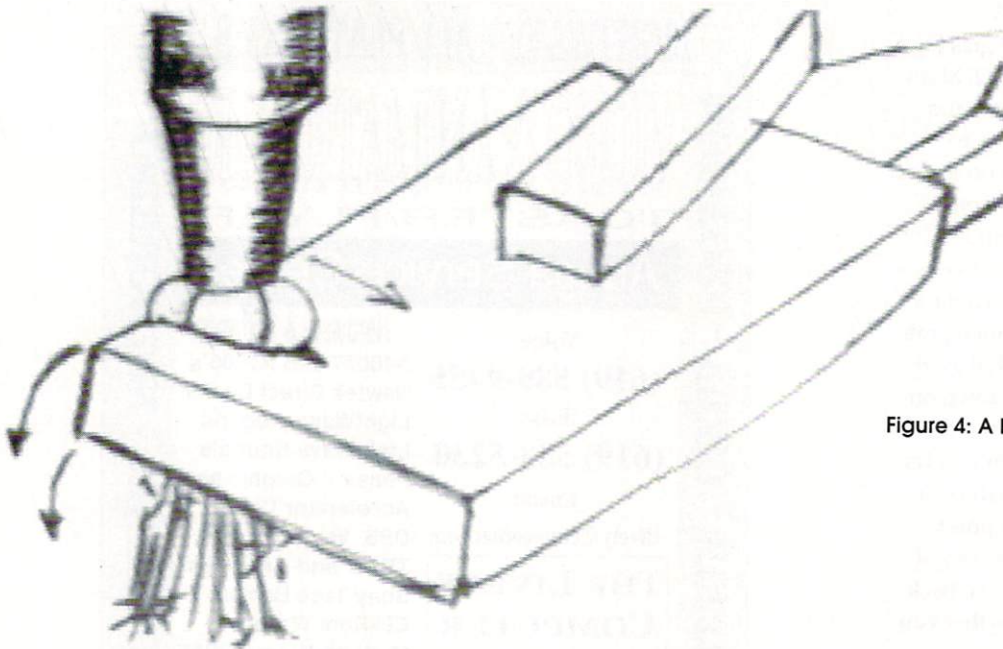


Figure 4: A Preliminary sketch

series of sketches showing key elements of the animation. Sketching the pivotal scenes helps you put the animation together in your head, and gives you a rough blueprint to follow while building and animating the scene in Aladdin4D. Note that you don't need to sketch out every frame, nor should you worry too much about perfect accuracy or detail. You need to get the basic idea of what things look like, where they are in the scene, and when and how they move.

In this particular case, a robot arm will pick up a piece of metal, rotate it into place, where a torch will descend, slice off a bit of the metal, amidst a shower of sparks, then retract. The arm will then rotate, drop the finished metal piece, and return to start again with a fresh piece. A fairly simple operation, yet with enough components to take some thought.

The robot arm rotates into position, the claw grasps a piece of metal, the arm rotates to the cutting position, the torch lowers, and slices the end of the piece of metal, while sparks fly. After finishing, the waste drops, and the arm rotates to drop the finished piece into a hopper. While this is fairly straight forward in the real

world, in the world of 3D animation, it is something again. There is no "move the robot arm, grab the widget" command in Aladdin4D, so we have to break this up into many smaller, more precise commands, which is further complicated in 3D software by the need to specify hierarchical relationships.

When you move your arm in real life, you don't need to worry about also moving your hand, it's (hopefully!) attached. In our 3D robot arm, however, the claw is not attached, and unless we specify, it will remain at rest while the arm moves- not very convincing. This is why it is so helpful to sketch out an animation, it helps you see the actions you want to accomplish, and can clarify the process of obtaining them. See Figures 3 and 4 for a couple of preliminary sketches.

In addition to the motion of the objects, you also need to contemplate the camera. The camera in Aladdin is used much like the cameras in real life movies, what the audience sees is dependent on the camera. You need to think about distance, angle, motion, all those cinematic details. Just rough out some notions on how you want the objects, and the scene as a whole, to appear.

Also, you need to think about technical details, particularly in an animation. How long should it be? Will it be played on the computer, or recorded to video? What resolution should it be rendered at? It's not much fun spending days or even weeks rendering something, only to find you should have done it at a different resolution.

On the surface of things

Once you have the basic objects and motions sketched out, you should put some thought into surfaces, textures and lighting. Again, you don't need to preplan every detail, more than likely you'll come up with some pleasant surprises along the way, that's the nature of creation. It is helpful to have some general ideas about the general look of the objects, and the lighting. If you want a particular look to an object, you should spend some time achieving the look before getting too involved in the model building and animating.

Well, that's it for this article. Next time, we'll fire up Aladdin4D and get modelling. As always, you can write to me care of Amazing or via email: dm05438@navix.net

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APPLYING TEXTURES TO FONTS AND CLIP ART

Using textures to create just the look
you want in your documents and art.

by Nick Cook

If you use the Amiga for graphics, particularly rendering 3D images, you probably know about "textures". Textures are small bitmaps of material such as bricks, glass or metal. These images are "wrapped" around objects to make them appear as if constructed out of the material.

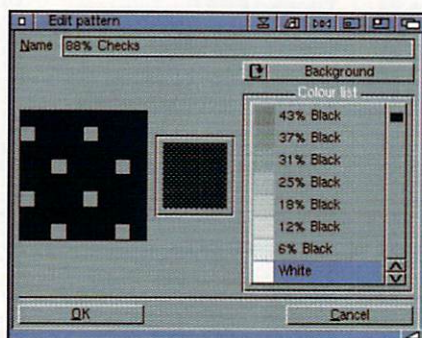


Figure 1: Alter a pattern or draw a new one on the grid in the upper left corner of DrawStudio's Edit Pattern panel.

Textures are also handy in DTP work. Some companies, such as Adobe's Image Club Graphics, sell structured drawing textures (if you've got these, skip to the actual method itself). However, trying to incorporate the same bitmap textures you'd use for 3D work may not be a good choice for printing. For example, your output may be on a relatively low-resolution printer and 24-bit graphics will simply appear cheesy. Or maybe you want to texture an entire page (for an "aged" effect, let's say) without having to change each object's attributes by hand. Here's a quick tip for adding texture to type and clipart, with the goal of giving a "weathered" look to the project. We'll use "DrawStudio" and "PageStream" in this example. We'll explore a couple of ways to create our own textures first.

DrawStudio

In DrawStudio, draw a square. Click on the Pointer tool. Select Object>Attributes with the menu item or with the left Amiga L keyboard shortcut. Before we work on the texture, we are going to need the "invisible white" color we've used previously (*Amazing Computing/Amiga*, May, 1998). If you've forgotten how to mix the stuff up, read on for a refresher course.

Select Colour in the Fill Colour panel, then click on the Edit button. When the Colour List appears, highlight White then click New. A new entry, called "New White", will appear. Click on Edit. When the Edit Colour panel appears, drag the Opacity slider down to zero. You may want to rename this color as "Invisible White". Click OK twice to get back to the Object Attributes panel.

Now click on the Pattern button in the Fill Colour section, then on the Edit button. Scroll down the list to a pattern that strikes your fancy, then click on New. A new pattern will be created based on the previously selected pattern. Click on Edit to get to the Edit Pattern panel (Figure 1). We'll be changing both the Background and Pen colors.

With "Background" showing in the popup gadget, select "Invisible White" from the color list. Switch to "Pen", and pick the same color as your background will be. Rename the pattern and save it if you wish. Then click on OK until the pattern is applied to the square.

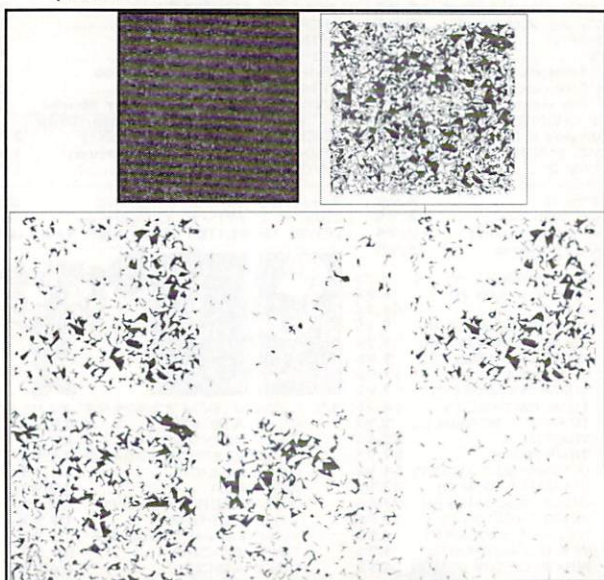


Figure 2: The original texture bitmap before (upper left) and after (upper right) being traced in BME. The traced object can be ungrouped into several layers (bottom two rows), each of which can be used as a texture.

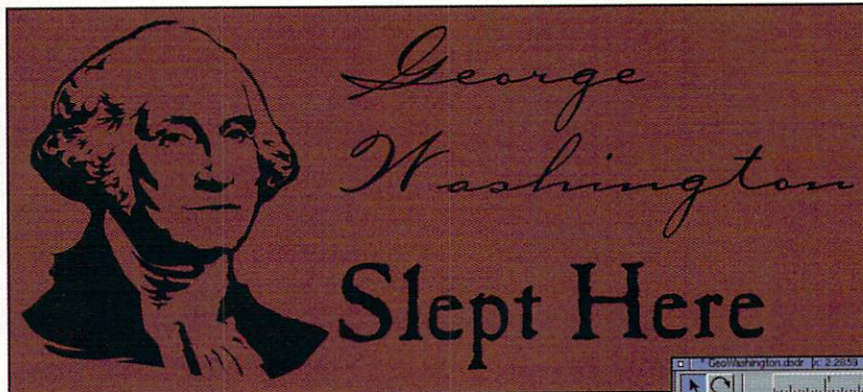


Figure 3 (Above): An historical sign (and a funny 1940s play by Moss and Kaufman).

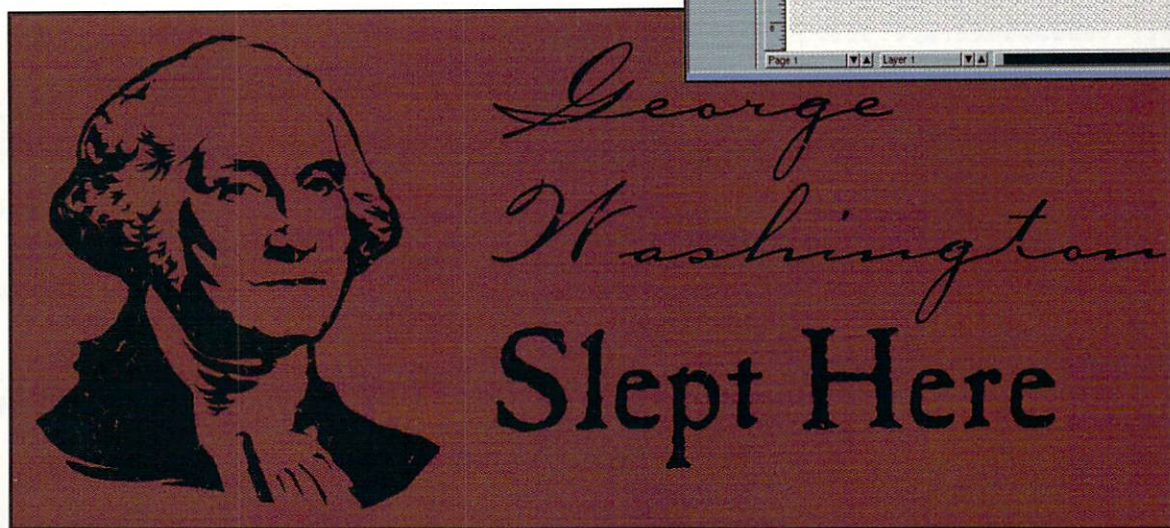
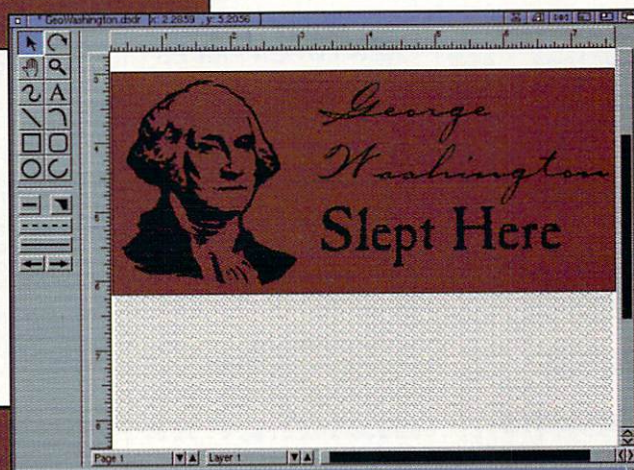
Figure 4 (Right): The texture, an altered DrawStudio pattern in this case, is slid halfway up the artwork. Notice the difference between the top and bottom halves of the sign.

Figure 5 (Below): The sign with two "slices" from the traced texture shown in Figure 2 applied. George's portrait now looks a little worse for wear.

With The Preliminaries Out Of The Way...

Now for the actual technique. As you'll see, it is about as simple as you can get.

STEP ONE: Create your background. It can be a filled object, artwork, or simply a blank page.



PageStream

Bitmapmed texture images can be converted through PageStream's companion program, BME. Load the IFF into BME, then select the Trace function from the Effects menu. This creates a structured DR2D drawing from the bitmap image. You'll probably want to fiddle with the settings, especially which color is ignored. For example, the darkest color was ignored when tracing the Sandpaper texture from DeluxePaint V (Figure 2, upper left). By the way, you'll stumble across a little BME bugette here. After the trace function completes, a file requester pops up

asking you which file to load, when, of course, you're doing the opposite.

If the original bitmap was in color, the DR2D object will be made up of several layers (Figure 2, bottom two rows). To separate the layers, "ungroup" the DR2D object in PageStream or DrawStudio. Click on it and drag a layer off. Keep clicking and dragging until you run out. These extra layers are a bonus. You can use each one, or combinations of them, as your texture. When you load the texture into DrawStudio or PageStream, change the pen color to match your background color.

STEP TWO: Add your type and additional clip art images (Figure 3).

STEP THREE: Place the texture directly on top of the page. Since the texture's pen color is the same as the background, the texture will only affect the type and art (Figures 4 and 5).

That's all there is to it. This is an easy technique that'll give you lots of mileage.

•AC•



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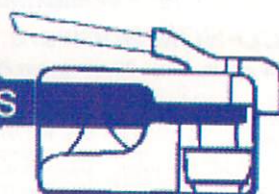


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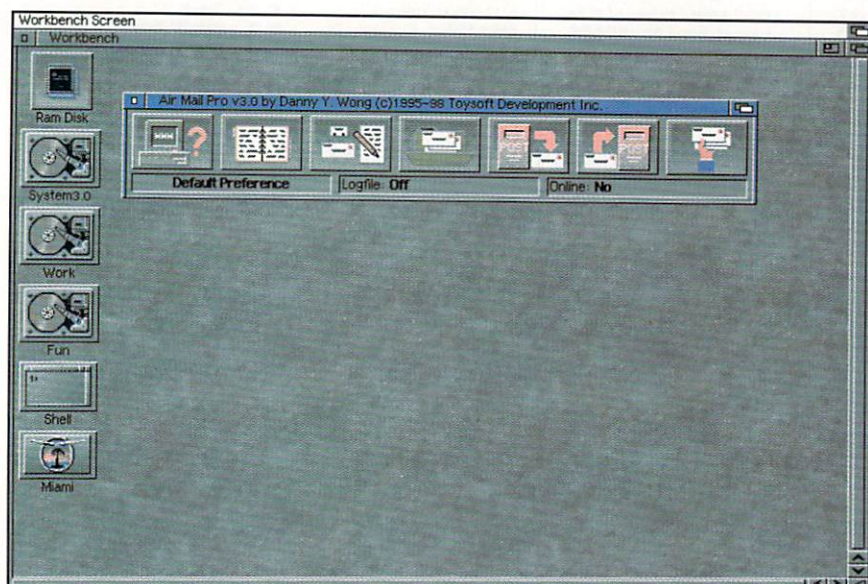
on line

amiga telecommunications

by
Rob
Hays



Catch the news on the latest versions of
World News for newsgroup reading and
Air Mail Pro for e-mail.



This month we begin by looking at new incarnations of two programs from Danny Wong.

Air Mail Pro

Since the last time I talked about the venerable e-mail client from Danny Wong, Air Mail, it has evolved into Air Mail Pro. As a pro, it is packed with new features and capabilities that could only be wished for earlier. For instance; do you have more than one e-mail account? Multiple preferences files lets you switch easily between systems, sharing address books, etc., or not as you prefer.

Air Mail Pro maintains the clean tool bar interface of its predecessors, (Figure 1) opening supplemental windows as needed (Figure 2). After installing the program, work your way down the preferences settings (Figure 3) setting up the info on your POP and SMTP servers. Check with your Internet Service Provider if you are unsure about any of this information, because if it is wrong, you won't be able to send or receive your e-mail.

In addition to the multiple preferences files mentioned above, Pro uses a program module called the Super Mailbox, which allows multi-threaded operations. This means you can read one message, while replying to another, as new messages are downloaded and replies sent off. Sounds just like our favorite computer, doesn't it?

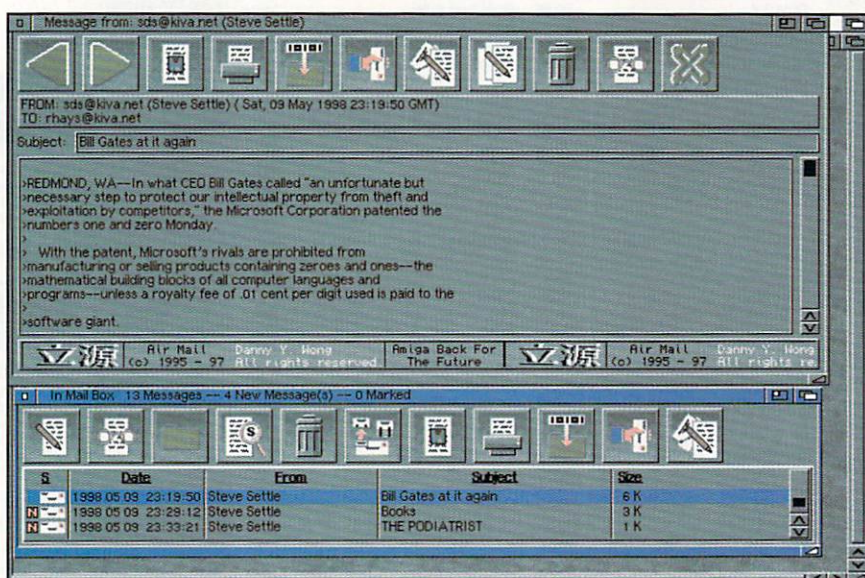


Figure 1 (Top): Air Mail Pro presents a clean, simple interface.

Figure 2 (Bottom): New windows open for the various functions.

Besides the usual niceties, such as an address book, and support for up to 10 signature files, Pro has a couple of exclusive features. The first is what Danny calls True Signatures. This allows the user to design a bitmap graphic file that is added to the bottom of a message. Instead of the common ASCII signatures, with True Signatures you can add just about anything that you can create in a paint program such as DPaint. At the bottom of the upper window in Figure 2 is an example of a True Signature.

The other exclusive is a choice of custom forms for your messages (Figure 4). These usually include an area containing a graphic image, and have the standard objects arraigned differently. More than 40 forms are included, and if you want to make up your own, a program called Air Mail Forms Creator is available for downloading from the Toysoft Web site (see below). Currently only four variations of the basic template are available, but more are promised (Figure 5).

Air Mail Pro also allows you to take a "peek" at the subject and sender information on your mail server before downloading your messages. This lets you immediately delete any obvious spam messages, and download only specific messages.

One other goodie built into Air Mail Pro is support for staying current with Aminet files via e-mail. See the *December 1997 On Line* for details, but basically you can receive either daily or weekly e-mailed listings of new files added to the Aminet archives. Find a file you want, and it can be e-mailed to you also.

Air Mail Pro is available in versions for both MUI and ClassAct user interface systems, although the demo is for MUI systems. Currently at version 3.0b, the HTML documentation also available for downloading is for the earlier version 1.0 (Figure 6). The intuitive design and the available MUI bubble help make up for the current lack of up-to-date docs.

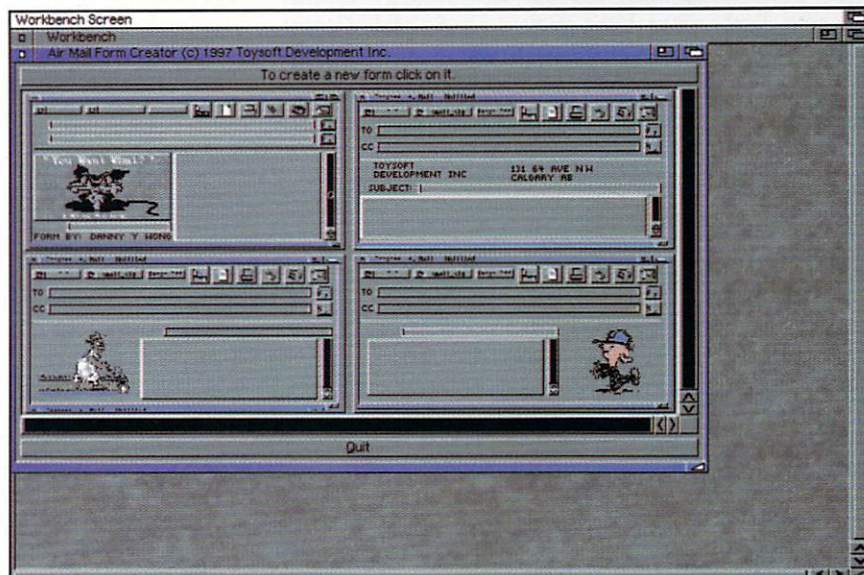
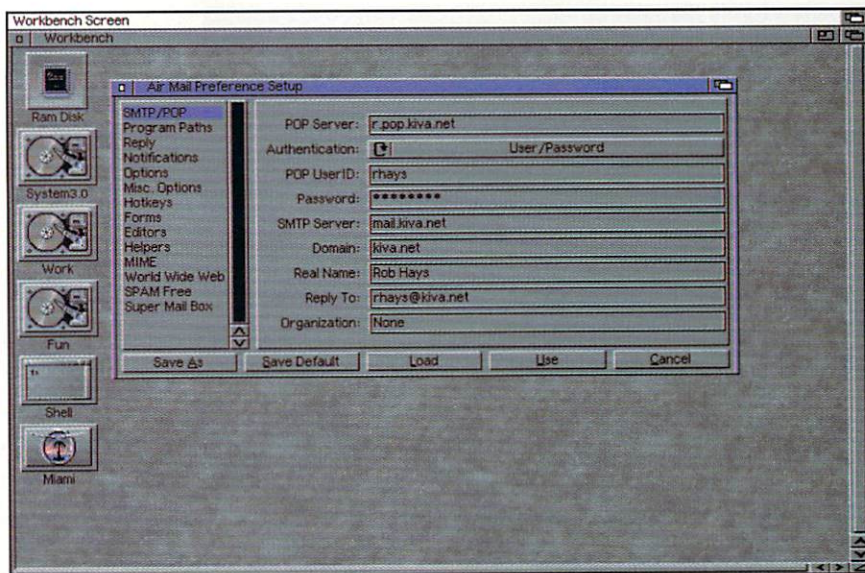


Figure 3 (Top): Lots of options means lots of preferences to set.

Figure 4 (Middle): The available forms can brighten up a drab e-mail.

Figure 5 (Bottom): Create your own forms with the Creator program.

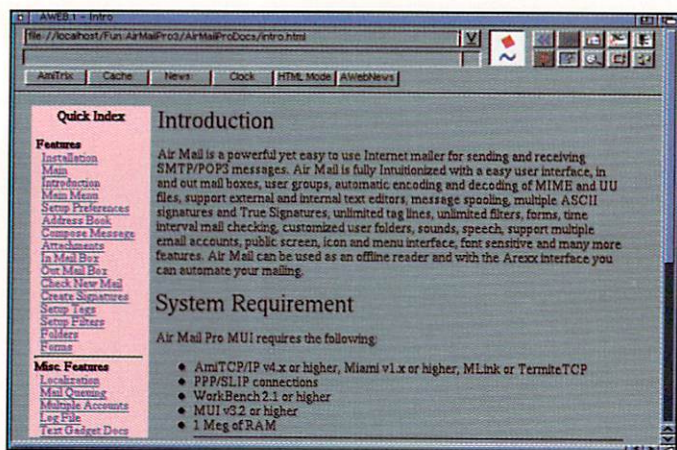


Figure 6: The HTML documentation is for an earlier version, but still helpful and easy to use.

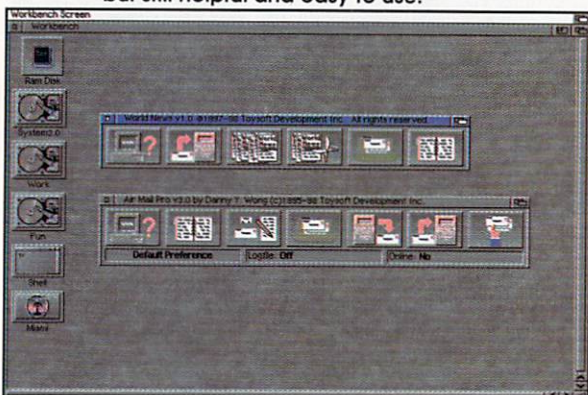


Figure 7: They say good looks run in families.

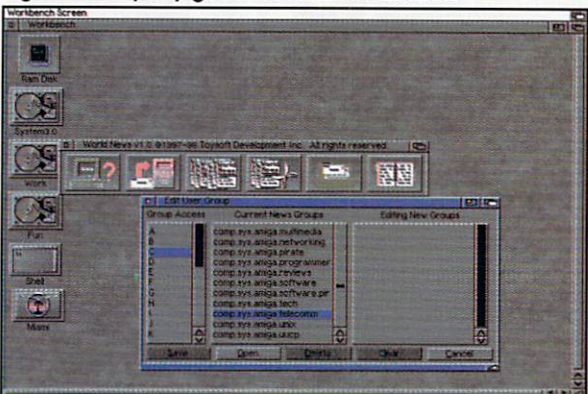


Figure 8: Creating your own custom list of newsgroups is drag-and-drop simple.

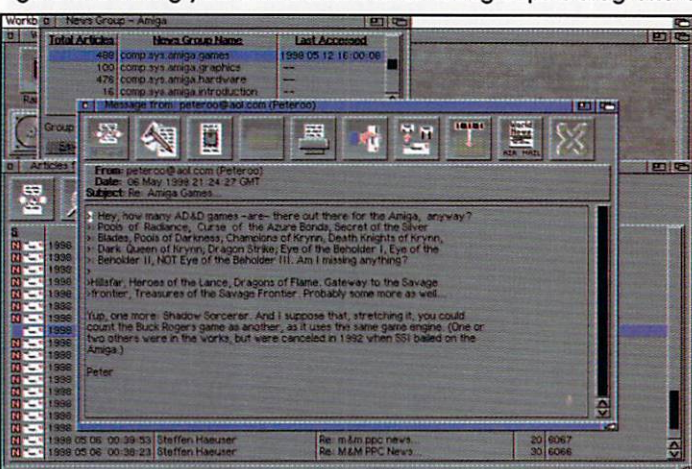


Figure 9: Keep narrowing your scope until the article you want appears.

World News

World News does for newsgroup reading what Air Mail Pro does for e-mail; makes it as simple as possible. The family resemblance is obvious as soon as you start the program (Figure 7). Set up the preferences files with your newsgroup information, and you are ready to catch up on the news next time you go on line.

Included with the distribution archive is a recent list of newsgroups available on most news servers, which eliminates the need for a long download from your server. Danny has even included some selected newsgroups for your immediate use. Of course you are free to create your own personal lists of favorite groups. This is done with a three window listview (Figure 8). Click a letter of the alphabet in the left-most window, and a listing of groups whose names start with that letter in the center window. Drag the individual groups into the right-most window to add it to your personal list.

When you open your personal list of newsgroups, a window opens listing all of the newsgroups you have chosen, and if you are on line, World News will get a current count of the articles available in each newsgroup. Double click a newsgroup, and you will see a listing of article headers. Double click the header, and the full article appears (Figure 9).

Where To Find Them

The demo version of Air Mail Pro, and the other files, can all be found at the Toysoft site (Figure 10): <http://www.toysoft-dev.com>

The demo file is `airmailpro3b.lha` and is 800k in size. Requirements are OS2.1+ and MUI 3.2+, and 1MB of RAM. The Air Mail Form Creator program is `amfcreator.lha` and is only 23k in size. The World News demo is named `worldnews1.lha`, and is 600k in size. World News requires OS 3+, and MUI3.2+.

Air Mail Pro and World News are commercial programs, and these demos have some features disabled,

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and the latter is limited to 30 minutes per use. Prices are \$40US for Air Mail Pro, and \$35US for World News. A package price of \$65US is offered for the pair.

If you come across any World Wide Web sites you feel would be of interest to the Amiga community, pass them along for inclusion in the HotList

of the Month. Send the info to any of my addresses above.
That's all for now. See you on line!

•AC•

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If you run an Amiga specific BBS, send me the information callers will need to access your system. Phone number(s), modem speeds, software settings, etc. As a service to the Amiga community, I will include the information I receive in this column from time to time.



Figure 10: The homepage of Toysoft Development.

This Old Workbench Episode 18:

Building the Perfect Workbench, Part Two

Real world perfection differs from user to user. Here are a few ideas on how you can maximize your Amiga to provide the perfection you want.

By Dave Matthews

Last episode, I began laying the groundwork to build a perfectly tuned and tweaked Workbench. In the real world, of course, there is no such thing as perfection, but the idea is to strive to create a comfortable, productive, and dare I say it, fun environment that's a

pleasure to use. This entails customizing it to work the way you do, and also making sure it is stable and doesn't conflict with your other applications.

So, the "perfect" Workbench for me probably will be somewhat different than for you. To that end, I

will usually suggest a number of options, techniques and configurations so that you can choose the one best suited for your needs.

A Better path to Enlightenment?

In the last episode, I suggested creating secondary directories for the main Amiga system directories. This keeps the Amiga's system less cluttered, and easier to maintain. I've been informed, from several sources, that there is a better way than the one I demonstrated. First, some people prefer to name these new directories personal or user or such, in order to make clear their purpose, i.e. not part of the original system. Another tip involves overriding the old assignment, rather than simply adding a new

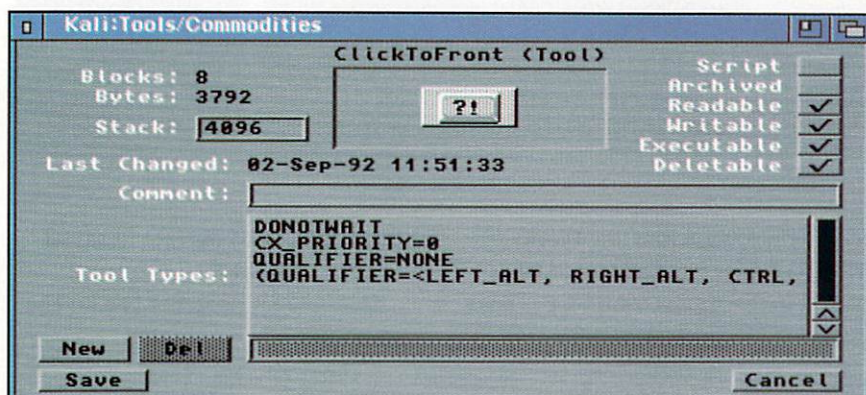


Figure 1: Clicktofront Tooltypes

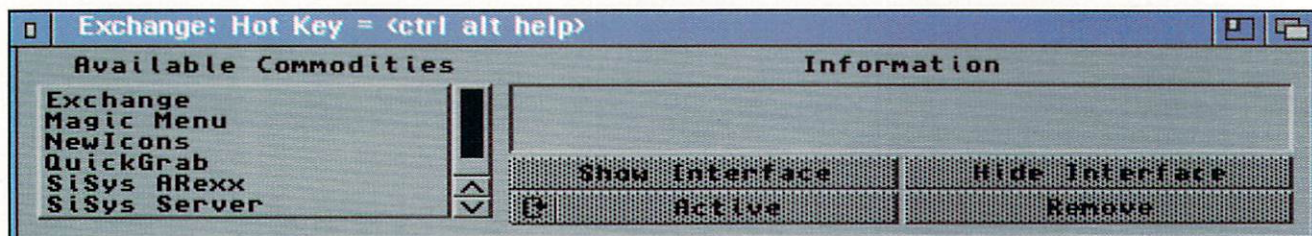


Figure 2: Commodities Exchange

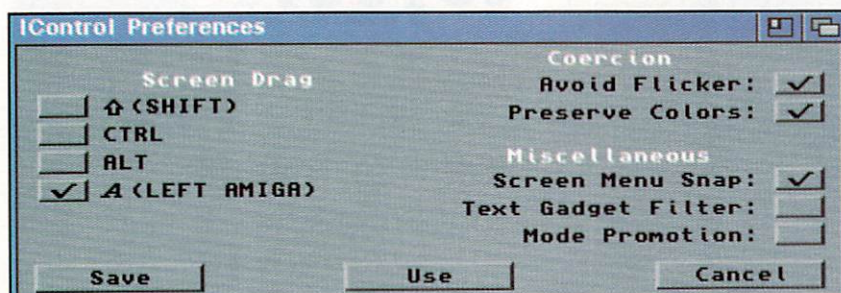


Figure 3: The Icontrol Preferences

assignment. Some examples should make this clear:

The original Amiga system has an Assign C: pointing to the C drawer of your boot drive. If we use the following statement:

```
Assign >NIL: C: Sys:C-User ADD
the C: assign will point to Sys:C first,
and then to Sys:C-User.
```


However, if we use the following syntax:

```
Assign >NIL: C: Sys:C-User
Assign >NIL: C: Sys:C ADD
```

Our new C-User drawer will be searched first when launching programs, and any files copied to C: will be copied to Sys:C-User. The original Sys:C will still be available, it will just be moved down the chain of command, so to speak. This can be extended to all the major Amiga system directories- LIBS:, DEVS:, L: etc.

The advantage of this new method is you don't need to rely so much on the kindness of developers. When installing, the new directories will be used by default, keeping the original system directories for Amiga system files only. The disadvantage is the slight possibility of incompatibilities, which might result from the original system directories being demoted. I don't see this as a major problem. On the other hand, if you were to install a new Amiga OS update, if you forgot to change the assigns back, you would end up with the new OS in the new directories, mixed with all the 3rd party stuff, which completely derails the whole plan to keep the 3rd party files separate!

Is any Reward Worth This!

Sometimes, as I wreak all these Machiavellian schemes on my poor Amiga, I have to stop and wonder if I am losing sight of the forest for the trees. Is all this effort worth it? Well, only you can answer that question. Of course, if you use Windows 95 regularly, you are probably aware of the absolute chaos that can run amok as programs are installed. Important files get replaced with older versions, settings get changed, file associations get hijacked, without permission or even letting you know. Uninstalling software can result in needed files being deleted, and orphan files and settings clogging up the system like so much plaque on artery walls. Windows 95 has numerous programs dedicated to cleaning up this mess. Personally, I find the above actions, in

concert with the Amiga's simpler, more robust nature, quite helpful in avoiding this kind of chaos.

First, there was the Installer

If you've read this far, you've either implemented the user reassignments, or decided they are the mad ramblings of an obsessive OS junkie, or both. In any case, our next step is to upgrade a few critical components.

First, you should make sure you have the latest Installer program. Many programs require this in order to install. This is available on Aminet: http://wuarchive.wustl.edu/~aminet/dirs/aminet/util/misc/Installer-43_3.lha

This is the official Amiga installer upgrade as released by Amiga Technologies (remember them?). Since this is an official Amiga OS compo-

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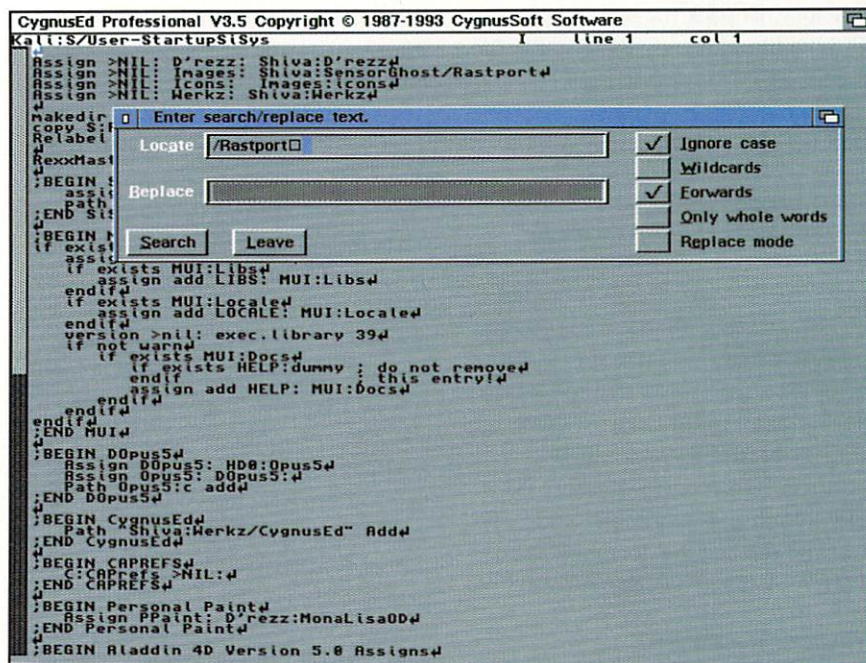


Figure 4: Cygnus Ed, searching for CTRL-J

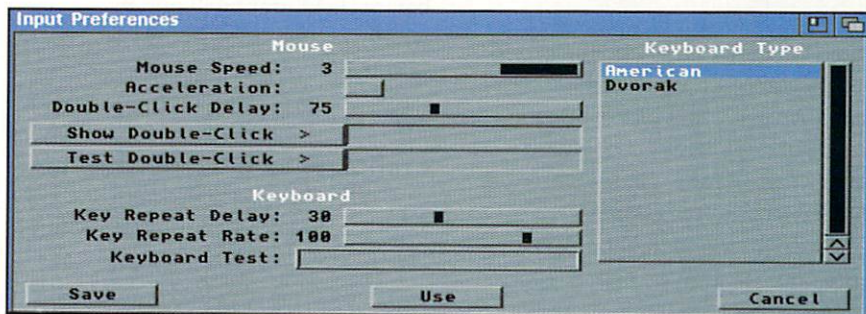


Figure 5: The Input Preferences

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ment, it should be placed in the original Sys:C directory, not the new C-User directory. Unpack the Installer-43_3.lha file, and copy the installer file to your Sys:C directory.

If you don't have the necessary LHA program to unpack this, get it from:
http://wuarhive.wustl.edu/~aminet/dirs/aminet/util/arc/LhA_e138.run

Also, for those of you running OS 3.1, Amiga International web page has some new Beta system updates, including a new Setpatch and updated FFS for better multi-GB hard drive support. NOTE: these are BETA products, which means they are not fully tested, and may contain bugs. Be sure and read all the documentation.
<http://www.amiga.de/files/index.html>

Window Treatment

O.K., our next step is to start configuring the Workbench. First of all, we need a click to front utility. Often when working with the Workbench, you'll end up with many windows open, and inevitably, the front 2 back gadgets get obscured. Rather than shuffle windows around till you can find the gadget, Clicktofront, found in your Sys:Tools/Commodities drawer, will let you bring a window to the front with a double click anywhere in the window.

First we need to configure Clicktofront. This is done by selecting the icon (single clicking), and selecting Information from the Workbench Icon menu. See Figure 1. Notice the text items in the window in the center? These are the tooltypes. You can select these and edit them. You can also make comments by enclosing text in parenthesis.

The first of the tooltypes is DONOTWAIT. This tells the Amiga not to wait for the program to finish running. This is needed when booting, since the commodities are intended to stay running in the background. The next line reads CX_Priority=0. This tells the Amiga which programs are more important in the scheme of things, for now we can ignore this. The next line allows us to configure clicktofront to behave as we desire. The QUALIFIER line lets us set a key combination that must be pressed before clicktofront will pop the window to the front. In my case I selected none. I like my clicks unfettered.

Exchange for the Machine

With only one commodity running, things are pretty simple. But eventually, as you install more, you will need some way to organize and control these programs. The Com-

modities Exchange program lists all your running commodities, and allows you to enable, disable, shut them down, and open their interface. See Figure 2.

Preferences and Desires

There are many programs in your prefs drawer. I'm not going to cover all of them, but there are a couple you might not have used yet.

Icontrol, can you?

This unassuming program has a number of interesting features. For the moment, look at the box labeled Text Gadget Filter. This controls whether or not the Amiga will filter out non alpha-numeric characters from text gadgets. Turning this option off is useful when using a text editor. You can search for special control characters in the text.

For instance, if you have a text file generated on an MSDOS/Windows machine, you can convert it to Amiga format by replacing the CTRL-M (what MSDOS considers proper for denoting the end of a line of text) characters with CTRL-J (what the Amiga likes). See Figure 3 and 4. The box character after the /rastport in the "Search for" gadget is actually a CTRL-J. Depending on the font you use, control characters may appear differently for you.

Insufficient Input to comply

The Input preferences program let you control several aspects of the keyboard and mouse. You can set the keyboard type, the key repeat etc. You can also set the mouse speed, acceleration and double click delay. Play with these settings until you get results that are comfortable. Considering how much time we spend either typing or mousing, configuring these options is time well spent.

Well, that should do it for this episode. Stay tuned for even more excitement next time. As always, you can contact me via *Amazing Computing/Amiga* or by email:
dm05438@navix.net

•AC•

Do You Have an Account with Us?



By Nick Cook

Part One: Learning the Linux Hierarchy, Key Phrases, and Setting up Your Accounts.

Linux is a free version of the venerable Unix operating system (see *Amazing Computing/Amiga*, December 1997). It is also one of the most popular "alternate" operating systems out there. This is the first of an occasional series about running Linux on the Amiga. It is more a journal than a tutorial, so join me in the plunge into the world of Linux.

Let's start with a couple of assumptions. One, you've installed Linux and two, you've got a Linux or Unix book at your elbow. A book is vital to get the most out of the operating system and to help you over the inevitable bumps you will encounter. Not to sound like a shill, but my favorites come from O'Reilly and Associates: *Running Linux* and *Linux in*

a Nutshell. There's such a large overlap between Unix and Linux that a Unix book is just as helpful. In that department, I already own the massive *Unix Unleashed*.

Look! In the CPU! Its Superuser!

The Linux operating system is a hierarchy (Figure 1). The head honcho is the "Superuser" (also known as the administrator or root). There are no secrets from the Superuser. The root account has complete access to the entire system. The Superuser also controls certain system functions, such as printing services.

The next level is called "Group". Each Group is made up of specific "Users". For example, a workplace may have a group called "clerk", comprised of secretary "users". This arrangement is for security. The Superuser can set permissions so that one group can't access (and potentially mess up) files needed by another group.

So why is this important for the lone home user? Linux is a complicated system. If you only log in as "root", there's the potential to damage or delete important files accidentally (yours truly managed to wipe out his

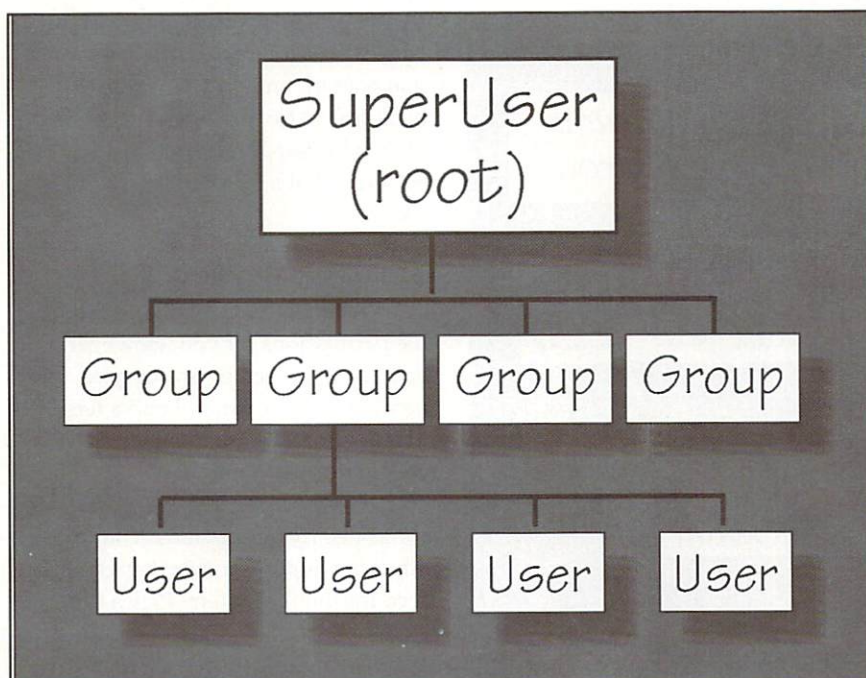


Figure 1: The Linux file system is "top down."

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entire /usr directory once). Also, if command goes haywire, and you're logged in as Root, you don't have access to the all-important "shutdown" command. However, if the same situation occurs and you're logged in a different account, it's a simple matter to use Alt plus function key 1 through 8 to bring up another login prompt, login as "root" and "kill" the errant process or shutdown the system. Consequently, you should have at least two accounts for your system: root and user.

Opening the Account

Setting up an account requires two steps. First, you let the system know there is a new user. Second, provide a password for that account. If you want, you can then edit the new account's login files (e.g., .profile) to set up preferences.

There is a Linux command named "AddUser" which takes care of the first step. Unfortunately, it was not included in the m68k distribution. If you know somebody else with PC Linux, copy the command to a floppy and then into your /usr/sbin directory. (Linux is multi-platform, remember, so the command will work even if it comes from a PC.) The command can also be downloaded from Aminet: /misc/unix/LinuxAddUser.lha.

Simply run "adduser" when logged in as root. The command will ask for the new user's name, add it to the "/etc/passwd" file and make the necessary "home" directory. Next, run "passwd" (like Unix, Linux is chock full of odd command abbreviations) to create a password. To test your new account, go to a new login screen; Linux provides eight. Press the left Alt and F2 (or any function key through F8). The new login prompt should appear. Enter the new user name and password, and you should be in.

Don't Be Guideless

See page eight for news on the new AC's GUIDE SuperGuide available this Summer!

If worse comes to worse, you can add a user yourself. Simply use the "mkdir" command to create a home directory for the user. Usually the user's name is the directory name. For example, if the new user is "John Smith", his home directory is "home/john" (remember, Linux is case sensitive). Next, edit the password file (/etc/passwd) yourself with vi or EMACS.

But be very, very careful. The password file is *critical* to Linux. Botch up this file, and you're locked out of the system. Not a good idea. So if you have to edit it manually, make sure you read up on it in a Linux or Unix book first. Also, make a backup copy of /etc/passwd before you fiddle with it. After all, it's better to be safe than sorry.

Superuser, May I?

"Adduser" should change all the file permissions for you. However, if you are all logged into your new account, try a command and a terse "permission denied" pops up, what's a user to do?

All files, including executable, are controlled by permissions. They don't affect the Superuser, but they do other accounts on the system. Pick a file and list it with the "-l" option (e.g., "ls -l more"). Figure 2 displays a portion of the output.

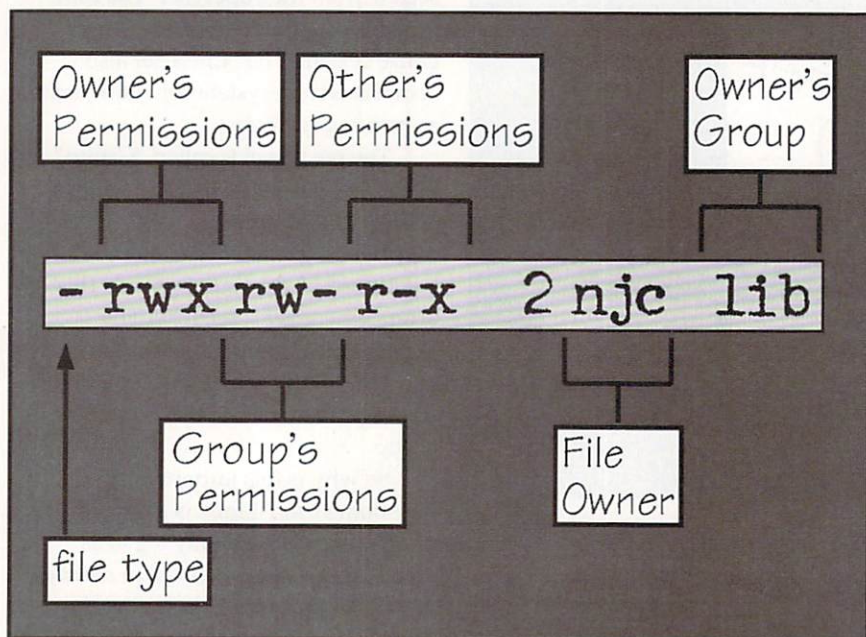


Figure 2: A section of the output of the "ls -l" command.

Your Linux or Unix book will explain the entire listing, but we'll concentrate on just a few parts. On the right side, you'll see who owns the file ("njc") and what group he belongs to ("lib"). The first field on the left side (marked as "-" in the example) is the file's type. The dash in this spot tells us this is a plain text file.

The next nine fields represent the file's permissions. There are three permissions possible: "r" means the file can be read, "w" means the file can be written to, and "x" means the file is executable.

The permissions are in groups of three. The first three denote the permissions granted to the file owner. Reading from left to right, we see that the file's owner, "njc", can read ("r"), write ("w") and execute ("x") the file. In other words, he can do pretty much whatever he wants to with it.

The group's permissions are set out in the next three fields. Other members of the group "lib" can read this file and execute this file. They can't write to the file, however, since the "w" field holds a dash. The last three permission fields are for "Others", essentially anyone else wandering through.

Use the "chmod" command to change a file's permissions. The command's syntax comes into two flavors. You can use initials to represent the various switches. Read, write and execute permissions are the familiar "r", "w" and "x". Users, group and others logically utilize "u", "g" and "o". A "+" adds a permission, while "-" takes the permission away. So, to give everybody and his cousin permission to the "more" program, the command would be:

```
chmod ugo+rx more
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The other chmod flavor, when you directly access the command's bits, is called "absolute". Within the three levels of permissions (user, group, other) there are three bits (read, write, execute). Check Figure 3 for a graphic representing these bits. To change the permissions of a file, you add up the appropriate bits. For example, to give everyone all permissions to the program "more", the command would be:

```
chmod 777 more
```

The hundreds column is the user read, write and execute bits added together (400 + 200 + 100 = 700). The tens column (40 + 20 + 10 = 70), and the ones column (4 + 2 + 1 = 7) are sums of their respective bits. The final

command ends up as 700 + 70 + 7 = 777. For either syntax, add the -R (recursive) switch to instruct chmod to descend through a directory, changing permissions as it goes.

And now you're set with a new account. Log in to it the next time you boot up Linux. Now you can bash around without having to worry about an accidental deletion.

Debian Support Coming?

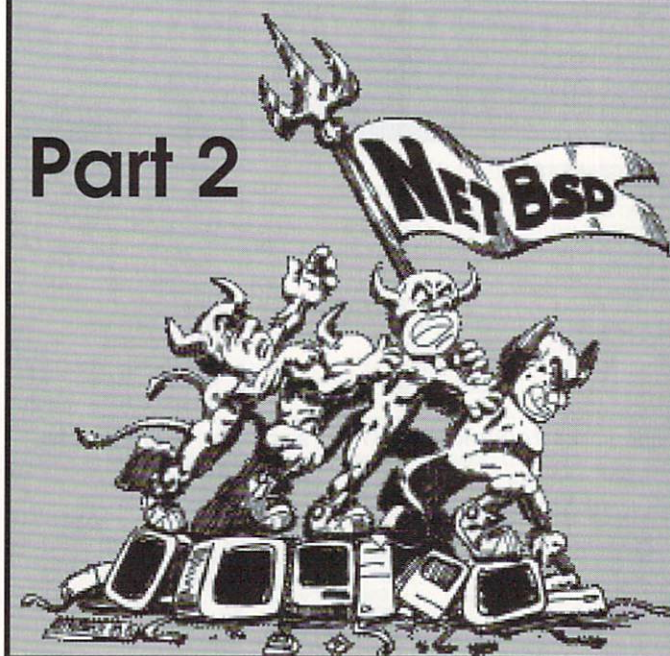
There are strong indications that Debian, a major Linux distributor, will support Atari, Amiga and Macintosh in its 2.0 Linux. Release date will be "soon". Keep an eye on their web site: <http://www.debian.org>.

•AC•

User			Group			Other		
read	write	execute	read	write	execute	read	write	execute
400	200	100	40	20	10	4	2	1

Figure 3: The bits used in the "absolute" mode of the "chmod" command.

Part 2



Unix on the Amiga!

Turn your Amiga into a powerful Unix workstation.

Part 2: Installing the software.

By Antonello De Santis

In the first article of this series (please see *Amazing Computing*/Amiga June 1998), I referred to the 1.2 version of NetBSD. However, the last few weeks have brought us version 1.3. I've been undecided on which of the two versions I should continue to address. I was not able to test 1.3 version in depth, so I have decided to cover the installation process of NetBSD 1.2, which I have found to be very stable and efficient. Maybe I'll describe the installation of version 1.3 in one of the next articles, but I think that after installing NetBSD 1.2 and having a bit of experience with it, you won't have any problem upgrading it to version 1.3 by yourself.

Let's start examining how to get NetBSD installed on your hard drive successfully. I assume that you have already accomplished all the steps described in the first article about repartitioning your hard drive and modifying the parameters in the advanced options section of *hdtoolbox*.

The installation process of NetBSD is not as difficult as you may think. Don't expect something as simple as the Amiga OS installation, but if you read this article carefully and pay attention to little particulars, you won't have many problems realizing a true Unix Amiga workstation.

NetBSD partitions formatting

First you will need to decompress four gzipped files you have downloaded from the internet, these files are: *loadbsd.gz*, *inst-12.fs.gz*, *xstreamtodev.gz* and *netbsd.gz*. You have to use *gzip* to unpack these files, a command line like this should work:

```
gzip -d filename.gz
```

About The Author:

Antonello De Santis is an Italian student in Computer Science at "La Sapienza" University in Rome. He is very keen on everything about computers, operating systems in particular. He would like to greet his Canadian girlfriend through these pages: Ciao Claudia! Feel free to contact him at his email address: ua01020@flashnet.it

Antonello ends his email with, "On the box it said, 'To install under Windows 3.1 or better', so I installed it on my Amiga."

Running *gzip* in this way will cause the deletion of the original gzipped file, but you will still have the uncompressed one of course!

If you want to keep the gzipped file too you need to run *gzip* in this way:

```
gzip -c -d filename.gz
```

Using the *-c* option could cause a guru meditation error, but I suppose this is just an incompatibility with 68060 processors; you can try to use it, but if Amiga OS crashes, you must cancel to keep the gzipped file unless you create two copies of it, unpack one of them and keep the packed one in a safe place on your hard drive.

Once you have unpacked the previous files you can start the hard job. Open a shell and run the command:

```
xstreamtodev —input=inst-12.fs —rdb-name=dhX
```

where *dhX* is the name of the partition you have modified to use as swap partition under NetBSD. Now you can boot the kernel you have downloaded into RAM and proceed with the biggest part of the installation.

You need the bootstrap program "loadbsd" and the kernel "netbsd". From a shell run the command:

```
loadbsd -A -b netbsd
```

if you have an AGA or graphic card based Amiga and a multisync monitor that can handle *dblpal* or *dblntsc* screenmodes. Otherwise, simply run:

```
loadbsd -b netbsd
```

After a few seconds the kernel will boot into RAM and obviously the Amiga OS will be closed.

You will see welcome messages telling the version of NetBSD and your Amiga configuration, then you will be asked to type in the name of the hard drive that contains the root partition, you should see something like "root device> ok".

Let's take a break now to see how NetBSD identifies hard drives. Both SCSI and IDE hard disks are recognized as SCSI; a physical hard drive (not a partition!), is named "sdN", where N is a number identifying a particular hard disk. For example if you have just one hd on your Amiga, it will be called "sd0", if

Basic Unix commands

ls	lists directory contents
ls -la	lists directory contents giving you a more accurate description
mkdir dir_name	creates directory "dir_name"
mv source dest	moves the source directory or file to destination directory or this can be used to rename files too.
rm source	deletes the source directory or file
cp source dest	copies the source directory or file to destination directory or file
cd path	changes to directory "path"
ln -s source dest	makes a symbolic link from source file to destination file
man command_name	shows the manual pages of command "command_name"

These are the very basic commands of every Unix environment, to know some more about them read carefully their excellent manual pages. See also the manual pages of commands: mount, umount, df, which, grep, cat, more, less, tail, kill, ps, vipw, chpass, chmod and chown.

If you want to know some more commands take a look at the contents of the following directories: /bin, /sbin, /usr/bin, /usr/sbin, /usr/local/bin, /usr/local/sbin, /usr/local/X11R6.1/bin. In these directories you will find almost all commands available in NetBSD, check their manual pages to see an accurate description of each of them.

you have more than one they will be called "sd0, sd1, sd2,..., sdN", according to how many hd are connected to the Amiga.

For hard drive partitions, each of them is identified with a letter near the name of the hard drive it belongs to. For example if you have three partitions on the hd "sd0", they'll be called "sd0a, sd0b, sd0c".

Let's go on with the installation. You must type in the name of the hard drive which contains the root partition. You have to type in "sdN*", where N is the number of the hard drive, remember to type in the * or you won't be able to go on with the installation. If you have more than just one hd, don't worry if you typed in the wrong number, NetBSD will find out that there are no suitable root partitions on that hd and will simply quit the installation without modifying anything.

Now you'll be asked to type in the path of a shell, you can simply hit the carriage return here. Some messages will now warn you about the risks you run installing NetBSD and will ask if you want to go on. If you answer yes, you'll be prompted with the names of all the hard drives connected to your Amiga on which there is a suitable root partition. Type in the name of the right hard drive (without * this time!), and hit return. You'll be asked again if you want to proceed now, if you answer yes you can go on with the installation.

At this point the root partition will be formatted and the filesystem installed on it. Once the formatting is over the install program will show you the names of the hard drives present on your system and will ask you the name of the hard drive which includes the usr partition. After typing it in you will be shown a list of all of the partitions available on the hard drive you have chosen. Now you have to type in the letter that identifies the

Unix directories tree

Every Unix like operating system has a typical directories tree.

The following is NetBSD's one:

```
/ (root)
  sbin
  bin
  usr
    local
      X11R6.1
        bin
        lib
      bin
      sbin
    sbin
    bin
    lib
    man
  dev
  var
  etc
  mnt
  root
  home
```

Let's examine the most important directories. Every "bin" and "sbin" directory contains executable files and eventually executable scripts. NetBSD's main configuration files are kept in "/etc" directory. In "/dev" directory you'll find all possible devices that can be identified from NetBSD. I'll talk more in depth of this important directory in the next article.

The "/mnt" directory is commonly used as mountpoint to temporarily mount a partition. Root's home directory is "/root". Users' home directories are located in "/home". The "/usr" directory is not a real directory, it's a mountpoint for "usr" partition. When you cd to that directory you have change the partition not the directory!

Every program you install under NetBSD, will be put in "/usr/local/" directory and linked in the directory "/usr/local/bin/". Finally, "/usr/man/" directory contains all manual pages of every program installed on your system.

usr partition. The usr partition will be formatted; wait until the formatting is accomplished and then you will see the typical Unix prompt: #. Now you can start extracting all NetBSD sets you have downloaded from the internet.

Extracting NetBSD sets

First of all, you have to mount the Amiga OS partition where you keep the sets. To do this you have to create a subdirectory in the directory /mnt. Use the command "mkdir /mnt/ados", this will create the subdirectory "ados" in the directory "/mnt". I advise you to check the boxes "Basic Unix commands" and "Unix directories' tree" in one of these pages to have an idea of what you are doing right now.

What is the file fstab?

The file `fstab` (filesystem table), resides in `/etc` directory, it is an essential configuration file in NetBSD environment. It tells the system which partitions to mount automatically at boot time, this way you don't have to mount each partition "by hand" every time NetBSD boots. Every line in `fstab` is relative to a particular partition or floppy drive and is made up of six fields separated by a space or tab, each one has a particular meaning:

- 1) name of device node in `/dev` directory
- 2) mountpoint of partition in system's directories tree
- 3) filesystem type
- 4) mount options
- 5) used by command "dump", is usually set to 0
- 6) priority of filesystem check at boot time, all non-NetBSD partitions must be set to 0

For a deeper explanation see the manual pages of "fstab" and "mount".

Type in the command "disklabel" to see the names of the hard drives and partitions available on your system and write on a piece of paper the name of hd and Amiga OS partition on which you have NetBSD sets. Now type in the following command:

```
mount_ados -o ro /dev/sdNL /mnt/ados
```

where "sdNL" is the name of the hd and partition where are NetBSD sets.

Now the Amiga OS partition where you keep the sets is mounted read/only on the subdirectory `/mnt/ados`; if you go to this directory and run the command "ls" you will see all the files and directory present on the Amiga OS partition. For each distribution set you want to install you have to run the following two commands:

- 1) `Set_tmp_dir (hit return) /mnt/ados/path_of_distribution_set`
- 2) `Extract distribution_set_name`

For example:

- 1) `Set_tmp_dir (return) /mnt/ados/NetBSD/base`
- 2) `Extract base12`

or:

- 1) `Set_tmp_dir (return) /mnt/ados/NetBSD/compiler`
- 2) `Extract comp12`

Remember that Unix like operating systems are case sensitive, so you have to type in every path and file name exactly as it appears after an "ls" command. That is, if the name of a directory is "AmiGa", when you want to `cd` to that directory you have to type in exactly "`cd AmiGa`" and not "`cd amiga`" as you may do under Amiga OS.

Once you have extracted the sets you want, there are only a few more steps to follow. Run the command "Configure", you'll be asked some questions about the network your Amiga is connected to. If your computer is not connected to a network, type in whatever you prefer.

Now you have to copy the kernel on the root (`/`) of the directory tree of NetBSD. Do that by typing in a command like this:

```
cp /mnt/ados/path_of_kernel /mnt
```

You have to halt the system and reboot now. Type in the

How do I mount a floppy?

The real question is: "What kind of floppy is better to mount?". That is because Amiga OS filesystem can only be mounted read-only under NetBSD, so you would be able to read the contents of a disk, but not to write to a disk. The best choice then is to use msdos filesystem disks that can both be read and written instead.

A floppy can be mounted using, obviously, the command "mount". If you want to mount an MSDOS floppy inserted in `df0` you have to type this: "`mount -t msdos -o rw /dev/fd0b mountpoint`", where "mountpoint" is the name of the directory where you want to mount the floppy, you can use "`/mnt`".

It can be useful to be able to access a drive without having to type in that very long line, the best way is to modify the file `/etc/fstab` adding this line to it: "`/dev/fd0b /floppy msdos rw,noauto 0 0`". Then create the directory "`/floppy`" and run the command "`mount -av`". Now every time you want to access an MSDOS disk follow these steps:

- 1) insert the disk in `df0`
- 2) type in "`mount /floppy`"
- 3) do what you need to do with the disk
- 4) type in "`cd /`"
- 5) type in "`umount /floppy`"
- 6) remove the disk from drive

For more informations about the command mount see its manual page.

command "halt" and wait until you see the message "system halted", then reboot.

The basic NetBSD system is installed, however, we still need to modify something and install X11. To start NetBSD you must run the following command from an Amiga OS shell:

```
loadbsd -a netbsd
```

or

```
loadbsd -A -a netbsd
```

if you have an AGA or graphic card based Amiga and a multisynch monitor that can handle `dblpal` or `dblntsc` screenmodes.

When you launch NetBSD you will notice some error messages just after the prompt "login:", we'll fix this problem soon, but first you have to enter the system using "root" as a login name, no password is required at the first boot. Set a password as soon as you enter NetBSD, you can use the command "passwd" and then follow the very clear messages that will be prompted.

Now that you have logged into the system, we can work out our additional problem. You have to open the text file "`/etc/ttys`" with the editor "vi", do that by typing in "`vi /etc/ttys`", the editor will be launched and you will see the contents of the file "`etc/ttys`" (see the box "vi basics" to learn the necessary commands to use vi).

You need to comment out some of the very first lines. You can accomplish that by typing in a # in the beginning of each line you want to comment out. The very first lines of the file "`/etc/ttys`" must be commented out or not according to the

How can I reboot straight into NetBSD?

When you reboot NetBSD using the command "reboot", it could be useful to choose which operating system to load after rebooting, instead this command simply shutdowns NetBSD and loads Amiga OS again. It's very simple to create two different reboot commands, one that reboots into Amiga OS and another one rebooting straight into NetBSD instead. Type in this series of commands:

- 1) `mv /sbin/reboot /sbin/reboot.amiga`
- 2) `echo "cp /netbsd /dev/reload" > /sbin/reboot`
- 3) `chmod 755 /sbin/reboot`

That's all! Now you can use the command "reboot.amiga", if you want to reboot into Amiga OS, and "reboot" if you want to reboot NetBSD.

graphic device of your Amiga. For example, if you have an AGA or ECS Amiga, you have to comment out every line relative to graphic devices (the ones beginning with "ttyeN"), but "ttye0 "usr/libexec/getty Pc" vt220 on secure", that is the one relative to AGA and ECS chipset.

Once you have commented out the lines you don't need, you can save and exit vi. You can still do something useful before installing X11: you should add an entry in the file "/etc/fstab" to make one or more Amiga partitions readable from NetBSD (see the box "What is the file fstab?").

For now we need to mount only the partition where the archives containing X11 are. Run the command "disklabel" and write on a piece of paper the name of the hard drive and partition where the X11 files are located. Then run the command "vi /etc/fstab", you have to add the following line to fstab:

```
/dev/sdNL /amiga ados ro 0 0
```

where sdNL is the name of the hard drive and partition you have written on a piece of paper. Save and exit vi. Finally, create the directory "amiga" in the root of NetBSD directory tree: "mkdir /amiga". Run the command "mount -av", if no error has occurred, you should be able to see the Amiga OS partition in the directory "/amiga". From now on every time you boot NetBSD, you will be able to see the Amiga OS partition you have chosen in the directory "/amiga".

There are still two little particulars to modify. You have to edit two files in root's home directory "/root": ".cshrc" and ".profile". Open each of them with vi and in the line where the system's path is set, you have to add the paths "/usr/local/bin" and "/usr/local/sbin". Save the changes and exit vi. Now you have to reboot the system to make the changes to the file /etc/fstab effective.

Remember: you can't reset the computer directly from NetBSD as you do from Amiga OS, else you'd run the risk of losing everything in your NetBSD partitions. You have to halt the system with the command "halt", wait for the message "system halted" and then reset, or type in the command "reboot" and wait till the system reboots by itself.

You can finally install X11R6.1 (X11 Release 6.1), boot again NetBSD from an Amiga OS shell and log into the system.

VI basics

Necessary commands for the editor vi.

Vi can run in two modes: options and edit (or insert). Press the key "Esc" to enter options mode and "i" to enter edit mode.

Options mode allows you to delete or add lines, delete characters, save and exit.

In edit mode you can write new characters into the file.

Options mode basic commands.

- | | |
|-----|---|
| x | deletes the character the cursor is on |
| dd | deletes the whole line the cursor is on |
| o | inserts an empty line below the one the cursor is on |
| O | inserts an empty line above the one the cursor is on |
| :w | saves the changes to the file |
| :w! | saves the changes to the file even if it's protected from writing |
| :q | quits vi |
| :q! | quits vi even if the file has been changed and not saved |

Edit mode basics commands—No commands, just write in what you want!

See the manual pages of vi for more in-depth information.

The Amiga OS partition where the X11 archives are should be mounted and readable in the directory /amiga.

X Windows

Installing X windows is quite a simple job, follow these steps:

- 1) for each of the five X11 archives type in this commands line: "gzcat /amiga/path_of_archive.tar.gz | (cd / ; tar —unlink -xvpf -)".
- 2) when you have finished extracting every archive, edit the files "/root/.cshrc", "/root/.profile" and add "/usr/local/X11R6.1/bin" to system's path.
- 3) edit the file /etc/rc.local and replace the line "ldconfig" with "ldconfig /usr/local/X11R6.1/lib".
- 4) edit the two files in the directory /usr/local/X11R6.1/lib/X11/xinit/ and modify them according to the graphic device you have, AGA/ECS is set as default.
- 5) halt and reboot NetBSD. When you have logged into the system again, type in "startx" and in a few seconds you'll see X11 up and running on your Amiga.

That's all for this month's article. Take a look at the boxes in these pages to learn tips and tricks about the NetBSD environment and wait until next month to see what you can do with a real Unix workstation.

•AC•

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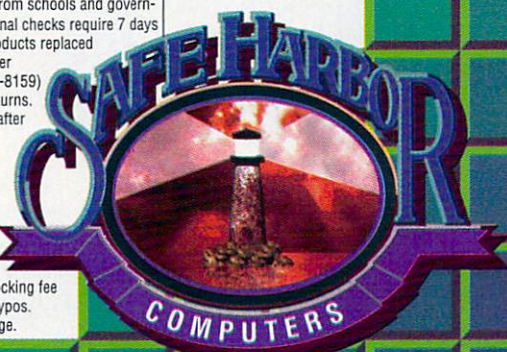
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World Of Amiga London 98

One year after announcing that Gateway 2000 had purchased the Amiga, Amiga Inc. (Gateway 2000's corporate development company for the Amiga) returned to the World of Amiga in London to announce their plans for the future. Amiga Inc. first held a private press conference at 11:00 AM and then a public presentation at 7:00 PM on Friday, May 15th. While the press conference ran for over two hours (45 minutes for the speech and 75 minutes of questions and answers), the evening session lasted only about 50 minutes. Both held essentially the same information.

Amiga Inc. is developing the next level Amiga which will be available in about 18 months, at the end of 1999, and it will be called Amiga 5.0. The main chip or series of chips used in the new system was not announced. In order to reach the 18 month deadline for 5.0, Amiga Inc. will release a developer unit in November of 1998 which will emulate the 5.0 design in software. The developer unit will be released as an Amiga Bridge PCI system (to bridge the current and the future platforms) based on the current x86 systems and it will be called Amiga 4.0. Although the Amiga Bridge system will be a developer system, Amiga Inc. will make it available to the general Amiga user base at under \$1000.

Jeff Schindler began his presentation by attempting to define the Amiga. He stressed that if the Amiga community continues to define the Amiga as a box such as an Amiga1200 or an A4000 we will limit

our opportunities and not let the Amiga achieve what it truly could achieve. Mr. Schindler stated that we need to kick down the walls. The Amiga has awesome technology, offers a freedom of choice, has an enthusiastic following with a world wide community, and offers unlimited opportunities.

Mr. Schindler stated that in order to get beyond the current market and to promote the Amiga farther, we need to look outside the box. He explained that the areas that separate Amiga from the rest of the main computer industry were Amiga's features: ease of use, affordable, high performance multimedia, open architecture, the ability to evolve as new standards are created, and fun.

The focus market for the new Amiga will remain the digital convergence market. This would include the internet in order to extend and to improve the way people are connected to people and to information. It would also mean a real move toward digital media and entertainment with digitized realism in games and applications. This will offer an expansion in the way programmers, developers, as well as users (as the applications become available) express their imagination.

Mr. Schindler is also looking toward the upcoming electronic paradigm shift where digital appliances become even more prolific. This could mean the embedded system that runs your TV, household, or security system could be based on Amiga technology.

He also stated Amiga Inc. wants an open architecture to support several different platforms all the way from internet appliances to game machines with more multimedia and internet features. This would include digital set top boxes with more capabilities, computer solutions in the homes in the \$500 range such as an LCD in your kitchen which does internet or television programming guides. There is also the need for computers for students, big screen televisions such as Gateway's Destination and media systems that not only do media rendering and edits but offer a complete media tower system that incorporates the best of what Amiga is and the best of what it can be. This system could create and edit 3D in real time.

Schindler stressed that in the digital convergence market, there are no current leaders. The market is wide open and Amiga Inc. believes there is still time and opportunity to capture the lead and the direction of this growing opportunity.

To do this, Amiga Inc. has designed the performance aims of the new system (5.0) to include multimedia processing at 5 times the performance of a Pentium II MMX. It will have screaming 3D as well as high speed digital internet connections. All in a system that could sell on the low end for less than \$500 and even less as embedded systems in lower cost digital appliances.

All of this will require a new level of software and a new category—

Amiga Inc.'s Announcements!

Amiga Bridge, 4.0, Convergenceware, Amiga OS 5.0, and more!



Examples of the Graphic User Interface proposed for the Amiga 5.0 System



Jeff Schindler addressing the Press.

Convergenceware. This would put Amiga Inc. in control of the digital convergence market and the software that will lead it.

Carl Sassenrath was quoted as backing the new OS solution. "This technology really seems to be the best match for the Amiga philosophy, one that meets high-end expectations at a low end price." Jeff Schindler stated the reason Carl was behind the new direction of the Amiga was that it was the direction they were working toward when the Amiga was first created.

The Amiga Bridge

Schindler went on to state, "We need a bridge. We need some way to get from here to there. The bridge is what we are calling the Amiga OS 4.0 release. Our plan is to base this on industry standard architecture. Not that this is the new Amiga. This is the way we can build a system and a set of platforms so that the developers can get low cost/high performance solutions to develop for the targeted future."

"One thing I want to make clear is the developer systems that we will have or the bridge systems that we will support, is not to be confused with the target we are going after. It is a means of getting to our target of getting Amiga back in front of the rest of the industry in where we are trying to run to. It is means to get to our vision, it is not the vision we are going to."

Schindler went on to say, "Our goal is the digital convergence. Which is the Amiga operating System 5.0. Which is based on the futuristic open architecture. The hardware being developed for that is still in development. We are talking with all leading manufacturers of hardware solutions. If they can come up with things that meet our goals, we are open to supporting those solutions as well with the operating system. We are not just picking one architecture and saying that's it. We are hoping that there will be more choices out there so that we can base this on different hardware platforms, but at this point, we know we have a good winner in the works and what we don't know is how many players will have something similar that we can leverage."

Building Blocks For The Future

Schindler stated that one major feature must be Amiga backward compatibility. They are terming this the Amiga Classic. They want to always support the Amiga classic.

The current futuristic hardware architecture is in development and will not be available until 1999. Amiga Inc. needs the current Amiga developer community's backing to keep Amiga centered on this new direction. Amiga Inc. will support this effort by releasing development kits and systems this year.

Current Targets

Current targets include a Developer Program by Q3 '98, an Amiga OS 4.0 by November '98. They will also need industry standard architecture support with x86 platforms, PCI, AGP as well as CD ROM, 2GB+, HDD, floppy, DVD possible, and 56K Modem support. Additional support will be available for composite video for US and Europe.

As well as the Amiga 4.0 Bridge system at less than \$500 US (target less monitor), Amiga Inc. wants an Amiga hardware compatible card for people with current hardware accelerators and graphics applications.

Last target, Amiga OS 5.0 end of 1999.

New Amiga 4.0 OS

The new OS 4.0 will include a new core OS, a new Amiga GUI, internet solutions, an Amiga OS 3.1 emulator, as well as Amiga documentation and limited localization.

To do this, Amiga Inc. will partner with a third party developer. The time-line without a partner would be a two year effort to bring 3.1 to the new level and it is unacceptable. They would miss their current planned dates and lose the competitive advantage.

Unfortunately, although it had been planned to be included, this key partner agreement was not available at the presentation. Their goal is to finalize a partner in the next 30 days with a target first release of November 1998.

Schindler stressed that, "The new OS partner has to be one of the leading operating systems and it must most represent where Amiga would have been if there had been a substantial investment in the Amiga over the past five years."

This would include an advance in multimedia, open standards, and real-time, threaded, protected preemptive multitasking full internet solutions. The current contenders proposed were: JAVA, BeOS, Linux, and several embedded options. Jeff stated that, even if another system was selected, JAVA would still be a necessary addition to this new Amiga OS.

Schindler noted that the new operating system would require the support of the current developers. First to move their current products to OS 5.0 and then to build

new native applications for the new Amiga system. They would help support this effort by having developer kits and systems for developers basically at cost.

New Personnel

In addition to the main topics, Schindler also announced two new additions to Amiga Inc. Dr. Alan Havemose was introduced as the Head of Technology and Development. He was in charge of the Amiga OS from 2.1 to 3.1. He built the Amiga developer support. He went on to be the CEO of ARK Logic (computer graphics).

Bill McEwen has also been brought on board. He will be in charge of media relations.

Summation

Schindler finished by saying, "We have a plan. We have funding. We have a target. The target is digital convergence systems for the consumer market."

"The key to all this is that we need to be focused in the same direction as a community. That is probably our strongest thing that we have over other solutions entering this market. We are such a large body of individuals world wide that if we could get a momentum going that would be the largest stake in getting there."

•AC•



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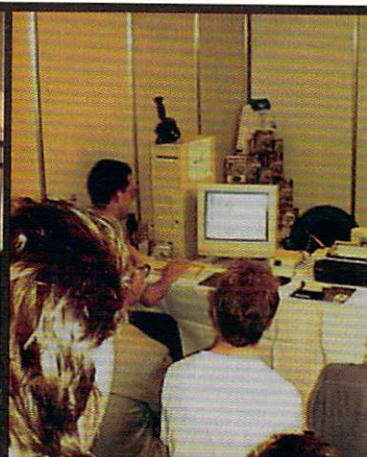
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The World's second largest Amiga show retained its position!



The World Of Amiga show floor was busy both days of the event.



Siamese Systems' Steven Jones

Although this year's World of Amiga London (May 16-17) exhibition had fewer exhibitors, the attendance appeared to be just as heavy as last year's WOA. Amiga users had come for the bargains and the announcements and there was plenty of both. While the majority of the World of Amiga exhibitors seemed to be upstaged by Amiga Inc.'s announcements, some used the event quite effectively to promote their latest releases.

Active Technologies

Active Technologies released NetConnect v2, a comprehensive Internet compilation designed to enable any Amiga user to get onto and use the Internet. Based around 11 commercial programs (including the Contact Manager), European users are given all they need for the Internet. By using the new Genesis Wizard, a user

should be able to connect to the Internet in a matter of minutes. NetConnect contains a suite of eleven commercially licensed Internet programs: AmiTCP, Genesis, VoyagerNG, Microdot-II, AmFTP, AmIRC, AmTelnet, AmTerm, NetInfo, AmTalk, and X-Arc.

Active Technologies, Oval House, 113 Victoria Rd, Darlington, DL1 5JH England, Tel: 01325 460116, FAX 01325 460117, Email: sales@active-net.co.uk, www.active-net.co.uk.

Amiga International, Inc.

Petro Tyschtschenko, General Manager of Amiga International, was on hand to sign posters and release a new CD of Amiga Music, the Theme of Amiga. There were performances six times over the two day event by a dance group Amiga International had flown in just to perform to the new CD tracks.

Amiga International, Inc., Robert-Bosch-Str., 11bD-63225, Langen, Germany, Tel: 00 49 6103 58 78 5, Fax: 00 49 6103 58 78 55, E-mail: www.amiga.de

Amiga Inc.

Although Amiga Inc. made their major announcement on Friday before the show (see the article on page 42), the American Amiga development company had a booth in one corner of the show. It was staffed almost continually by members of a local Amiga user group while Amiga Inc. representatives talked with other companies and developers.

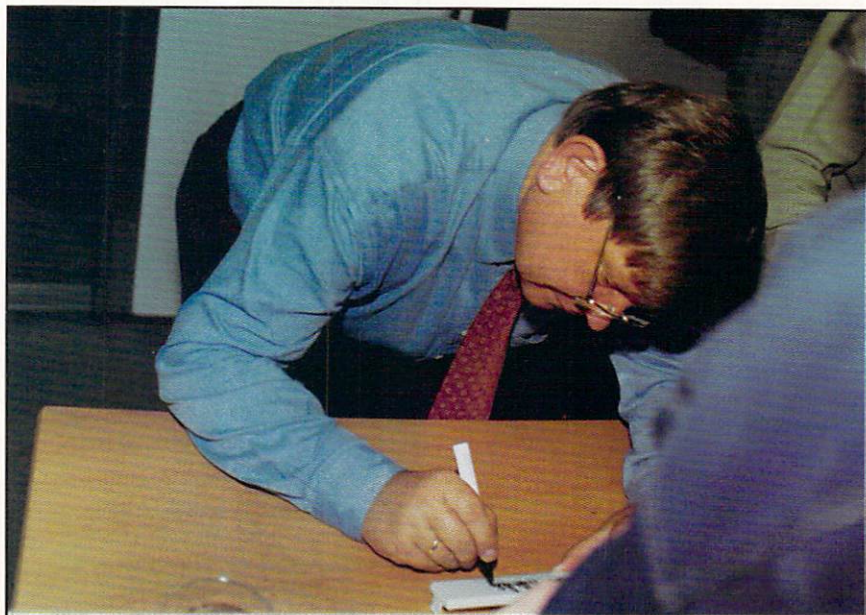
Amiga Inc., 600 N. Derby Lane, North Sioux City, SD 57049, USA, Tel: 605 232 6442, Fax: 605 235 1002

Ateo Concepts

Ateo Concepts now offers the Amiga 1200 with an 800x600 WorkBench screen with 16 million colors. Ateo Concepts' solution is to add a graphic board to your A1200 and also an extension bus allowing you to add boards: multi-serial, multi-parallel, SCSI, IDE, audio, ethernet, and more.

The AteoBus goes in the Amiga 1200 CPU connector while allowing the possibility of an accelerator board. The bus fits well in a tower case and the Pixel64 board just plugs in one of the 4 slots of the bus. Pixel64 uses the Picasso96 emulation for full compatibility with all current software working on A2/3/4000 graphics boards. For more compatibilities Picasso96 is CyberGFX 3.0 compliant.

Technical specifications include: 4 slots AteoBus (works with 68K and PPC boards allowing more than 8MB) with: high speed bus system (>9 MB/s), with some ISA compatible modes (see development documentation), low cost, and it is very



Petro Tyschtschenko, of Amiga International, signed posters.



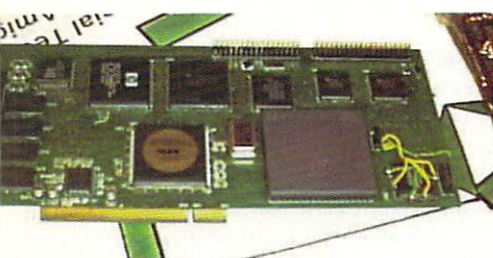
to crowds. CU Amiga kept their booth busy with user groups and more. Nova Design's Kermit Woodall was showing ImageFX3.0

small to fit easily (Tower Ateo, Micronik, etc.). The Pixel64 also has: Cirrus Logic GD5434 (64 bits) 135Mhz pixel clock, 2 Mb of Graphic RAM, 24-bits maximal resolution: 800x600 to 85Hz (800x600 to 60Hz + Alpha), 16-bits maximal resolution: 1024x768 to 75Hz, 8 bits maximal resolution: 1280x1024 to 75Hz, and DPMS compatible.

Ateo Concepts, Le plessis, 44220-Coueron, France, Tel: 00 33 (0) 2 40 85 30 85, Fax: 00 33 (0) 2 40 38 33 21, E-mail: info@ateo-concepts.com Web: <http://www.ateo-concepts.com>

Blittersoft

Blittersoft was on hand with their releases of Fusion (Professional Macintosh Emulator) and PCx (a PC x86 emulator for any 68020+ Amiga). Blittersoft had special



Siamese Systems' new PCI Amiga card.



Paul Nolan of Siamese Systems and Playable TV showing off Photogenics Ng.

show prices for a range of Micronik products in the infinitiv line. They also promised a promotion of the BoXeR system, however this reporter never had a chance to see it. All of this and a wide array of additional Amiga products made the Blittersoft booth extremely active.

Blittersoft, 6 Drakes Mews, Crownhill Industry, Milton Keynes, Bucks, MK8 0ER, Tel: 01908 261466, Fax: 01908 261488, E-mail: sales@blittersoft.com

Epic Marketing

Epic Marketing was selling an array of new and other software. One new release was their Epic Interactive Encyclopedia, new for this year.

Epic Marketing, BSS House, Area 50 Cheney Manor Trading Estate, Swindon, Wilts, SN2 2PJ, Tel: 01793 432176, Fax: 01793 484097, E-mail: epicmarketing@dialin.net

GP Software

Dr. Greg Perry of GP Software traveled the farthest (from Australia) to be at WOA. He was showing the latest release of Opus Magellan, a dynamite workbench addition that has helped thousands of Amiga users do more through their workbench.

GP Software, P.O. Box 570, Ashgrove Qld. Australia 4060, Tel/ Fax: 61 7 3366 1402, Email: greg@gpsoft.com.au, Web: www.gpsoft.com.au.

Haage & Partner

Haage & Partner, publishers of StormC, StormC Wizard, and ArtEffect, was at the Amiga International booth demonstrating



Dan Lutz of Anti Gravity was on hand roaming for new products for the Amiga.



Vulcan Software's Genetic Species was presented in the Amiga International Booth.



The dance group ANNEX performed to the music of the new Amiga CD, *Back For The Future*.



Holger Kruse winner of the AAA Award International 1997

Holger Kruse, creator of the well-known Amiga Internet connection software "Miami", received the AAA Award International 1997. The custom designed crystal glass Boing ball and diploma were presented by Petro Tyschtschenko, MD of Amiga International, Inc. and Martin Sahlen, director of AAA Awards. Holger Kruse received votes from Amiga users all over the world.

Mr. Kruse received the AAA Award International 1997, "For creating Miami, 'the first TCP/IP stack for EVERY Amiga user'. The inexpensive, fast and easy fashion of Miami has helped make the Amiga a true Internet computer with a wave of new applications as a result."

their new Wordprocessor package EasyWriter. Although no information was available on the product in English by press time, we were able to learn that the new program will be available in July with an introductory price of 149DM (approximately \$120.00). Please see the New Products section of *Amazing Computing/Amiga* August for a full features list.

Haage & Partner Computer GmbH,
Mainzer Straße 10 a, D-61191 Rosbach v.d.H.,
Tel: +49 (0) 60 07/93 00 50, FAX: +49 (0) 60
07/75 43, email: sales@haage-partner.com,
www.haage-partner.com/e.html

HiSoft Systems

HiSoft was selling their entire line of Amiga products, from the Aura 16, 16-bit stereo sampler, to Net&Web2, for serious surfers, as well as Soundprobe, Squirrel and Hi-Soft C.

HiSoft Systems, The Old School,
Greenfield, Bedford, MK45 5DE, Tel: 01525
718181, Fax: 01525 713716, E-mail:
sales@hisoft.co.uk

Nova Design

Nova Design demonstrated their newly improved ImageFX 3.0 (please see the ImageFX 3.0 review in the June 1998 issue of *Amazing Computing/Amiga*). ImageFX is the staple graphics application for most Amiga owners and is also an advantage for Video Toaster/Flyer owners' toolkits for years. With painting, image file format conversion, image processing, and special effects, ImageFX remains a leader in graphics manipulation on the Amiga.

Nova Design, Inc., 1910 Byrd Ave. Suite
204, Richmond, VA 23230, TEL: (804) 282-
5868, FAX: (804) 282-3768, Web:
www.novadesign.com

Power Computing Ltd

Power Computing was on hand to show their line of Amiga hardware and accessories. These included towers, drives, third party hardware, and more.

Power Computing Ltd, 82A Singer Way,
Woburn Industrial Estate, Kempston
Bedfordshire MK42 7PU, Tel: 01234 851500,
Fax: 01234 855400

Siamese Systems

Siamese Systems Steve Jones was on hand to demonstrate their newest release of their PC and Amiga interconnection system, Sisys v2.1 Remote Amiga, that allows Amiga users to slave a PC to their Amiga for an inexpensive hard drive and other features. In addition Siamese Systems execs were busy showing their new PCI Amiga card—is this a system for the Amiga 4.0 Bridge Card?

Siamese Systems, Gable End, 2 The
Square, Hockliffe, Bedfordshire, LU7 9NB, Tel:
01525 211558, Fax: 01525 211558

Photogenics Ng made its

UK debut at WOA

Paul Nolan, of Siamese Systems, also previewed Photogenics Ng at Amiga Format's booth. Two 25 minute seminars were also scheduled, for Saturday and Sunday.

Photogenics Ng offers a series of new features not the least of which is a new clutter free user interface. Also you are now able to modify (in real time!) the color, transparency, image processing mode, and even the position of what you have drawn.

Photogenics Ng also offers natural media tools such as AirBrush, Chalk, Pencil, Sponge, Watercolour, Smudge and Smear. Paint-on Image Processing allows you to apply effects by drawing with any of the media tools.

An exclusive Paint Layer technology allows mistakes to be rubbed out without requiring you to redo the good parts, by fading out with the right mouse button. The addition of an unlimited number of layers permits fast image composition. With the paint-on pyrotechnics such as lensflares, fire, and explosions and more, this is a challenging and rewarding artist's tool. Paul Nolan's Home Page: <http://www.pnolan.dircon.co.uk>

Weird Science

Weird Science was on hand with their own variety of game software and products from other developers. The most notable was Foundation created by Sadeness Software. Foundation is a real time strategy war game with strategy elements and enhanced control as well as over 40 missions.

Weird Science, Q House, Troon Way
Business Centre, Humberstone Lane
Leicestershire, LE4 9HA, Tel: 0116 246 3800,
Fax: 0116 246 3801

Others

Amiga Format as well as CU Amiga (the sponsor of the event) were holding large sections in the rear of the hall. Other developers and dealers with booths of their own or who combined their efforts with retailers included: Alive Media Software, Digita International, Eyetech Group Ltd, LH Publishing, Olympus, Quartz PD, Sadeness Software, Titan Computer, Snap Computer Supplies, Vulcan Software, Wizard Developments, and more. In addition, several main Amiga developers were just walking the floor including Wolf Dietrich of phase5 and Mick Tinker of Access.

Amazing Computing/Amiga will continue to monitor this information and provide updates. Please see the New Products section of next month's issue.

(continued from page 48)

I can give you a couple of performance numbers that we've talked about. The first one is the overall through-put of the 3D engine. It's 400 million pixels per second. These are 24 bit pixels, which corresponds to 16 million colors. This then corresponds to 1.2 gigabytes per second of data from the 3D engine. This can be compared to 8MB/sec for chip memory bandwidth for pre AA systems and 28MB/sec for AA systems.

AC: Where do you see this new Amiga fitting in? What kind of applications are we looking at?

AH: The types of applications we're looking at is really centered around what we call "convergence" products. These are products that would typically fit into the home and be either a game system, a home computer, or even as small as a set-top box. Ultimately, our licensees and partners will decide the exact product configurations. A typical configuration may have built-in internet access and connect right into your TV for display. It's going to have very, very high multimedia, entertainment and game performance.

AC: The nice thing about this is that a piece of software built for one application can actually be cross-pollinated into the others because it's all the same chip set, is that true?

AH: That's exactly the case. The way that we're designing 4.0 is exactly with that in mind, because we know that 5.0 is going to have to live on many different systems. So we're breaking down the core pieces in modules that you can either include or exclude depending on application. A good example, for instance is, for a set-top box would want "Control and Access" to control access to premium cable services, while a C&A interface wouldn't be included in a home computer.

But even more important, I think, is the fact that the architecture supports adding in those capabilities at any point in time, even over the internet. If it turns out that you have an A1200 type system, and your application needed access to information by your cable provider, it's certainly feasible that you could download the necessary C&A modules, install it on the system, thereby immediately gaining access to those extra capabilities, provided you had the necessary hardware.

AC: Have you already had some good activity from software developers and so forth, from what you've been able to show so far?

AH: As a matter of fact, we've had tremendous response. Lots of developers who left the Amiga arena years ago

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have, since you and I met in London, resurfaced. Amiga Inc's announcements have created a tremendous amount of interest. That's really all I can say at this point.

AC: They've just got to be willing to wait 18 months until this is ready, right?

AH: Yes, but as you know, good game

"Lots of developers who left the Amiga arena years ago have... resurfaced. Amiga Inc's announcements have created a tremendous amount of interest."

titles take about 18 months to develop. As far as those guys are concerned, 4.0 is exactly what they want. They want to know the APIs, graphics performance, minimum configuration and basic system characteristics, and then they'll do their piece.

Also remember, we'll work with developers through our developers program. This should allow developers and Amiga Inc to ensure that titles work well on the new Amiga. Through Amiga Inc we will also provide limited access to early prototype systems.

AC: So your time scale shows actual commercial systems by the end of '99?

AH: We are scheduled to release to our partners and licensees by the end of '99.

It's a little early to predict exactly when systems will reach the retail channel.

AC: But in the meantime, we have something to grow into.

AH: That's right.

AC: Plus, there is a big move to make sure that the Amiga classic of today is incorporated into that final version of 5.0.

AH: Correct, and that's why we've even gone to the extent of supplying the Amiga classic both through PCI-Amiga and emulation for 4.0. We are truly convinced, however, that the new Amiga's will be so compelling, that Amiga classic compatibility will become less important as soon as release 5 systems are out.

AC: Anything else you would like to add?

AH: Only that we're truly excited about the new Amiga. I would recommend that everyone interested in Amiga check our website www.amiga.com frequently.

AC: That sounds exciting. We're talking about everything from set-top boxes right through desktop systems, and anything in between. Thank you, Doctor.

•AC•



Dr. Allan Havemose,

Head of Development for Amiga Inc., discusses the new Amiga 4.0, 5.0 and more. Is this the next father of the Amiga?



**World Of Amiga
London 98**

Dr. Allan Havemose's new position at Amiga Inc. as Head of Development, was just one of Amiga Inc.'s announcements at the World of Amiga in London. According to Amiga Inc.'s new web site, Dr.

Havemose received his Master of Science Degree and Ph.D. from the Mathematical Institute, Technical University of Denmark. His Amiga experience includes being European Technical Support Manager for the European Amiga developers program at Commodore ESCO, Manager Amiga Software Development and Director of Systems software at Commodore International in the US where he created the operating systems for CD32, the Amiga 1200, the Amiga 4000, and AmigaOS 2.1. Before joining Commodore, he founded COMPAL in 1985, a computer graphics software company developing 2D/3D CAD systems for the Amiga.

Since Commodore, Dr. Allan Havemose was Vice President of Engineering at Digital Sound Corp., President & CEO of ARK Logic where he launched ARK Logic's entry into 3D graphics and then moved up to the parent company, ICS as Vice President of Strategic Planning. This year he founded Viking Analytics.

After meeting with Dr. Havemose in London during Amiga Inc.'s new announcement (see the related articles in this issue), we contacted him at his home and office in San Jose to discuss the current plans of Amiga Inc. Since Amiga Inc. has promised a development system with Amiga 4.0 on board by December of this year and a full new Amiga system by the end of 1999, we wanted to discuss the reality of this schedule and what kind of product the Amiga was moving toward.

AC: You do believe you will have no problem with this schedule?

AH: That's right.

AC: You've done this sort of thing before?

AH: I've done this sort of thing several times. Good examples are the CD32, the A1200, the A4000, and Workbench 2.1. I've brought out complex systems several times.

AC: The system we're talking about, the 4.0 Bridge System due in November, will just be for developers?

AH: It's mainly intended for developers, and it will be of most interest to developers. If end-users want to purchase the system, Amiga Inc. will make that possible, but the entire focus of the system, at this point, is going to be a development system.

AC: How close will 4.0 mirror or resemble 5.0?

AH: In many ways, 4.0 will, from a programming perspective, be very close to 5.0, but from a performance perspective, it will not be close. But that's the whole point. In order to begin software development prior to having the new silicon, we are creating a development system and are making the programming interfaces of 5.0 available in 4.0.

That is, in essence, what 4.0 really is. 4.0 is 5.0, but on the development system. In addition, 4.0 is also going to be evolving over the next year as we add new modules and APIs, Application Programming Interfaces. This allows us to gradually make the move from 4.0 to 5.0 as we get close to final silicon.

AC: You will continue to upgrade?

AH: Yes, and that's why 4.0 is probably not a good system for most end users. For an end user that's really a programmer and a public domain code writer, 4.0 is a terrific system, because you'll get a taste of all the technology to come without having the new system. But for someone who wants to play Amiga games, 4.0 is not the right choice.

AC: Will 4.0, as you see it right now, have some sort of Amiga Classic emulation built in?

AH: Yes it will. Amiga Classic is supported in two different ways: A hardware solution like the Siamese PCI-Amiga board and software emulation like what you've seen with UAE, the Universal Amiga Emulator. So if you don't want to invest in the PCI-Amiga

type product we will provide a software emulation capability.

But again, the point here is that AmigaOS 4.0 is for developers. You don't want to buy a new Amiga to run an emulation system. That makes little sense. The Amiga Classic emulations are key for a software developer, but they're really not of tremendous use to most end users. It should be noted, though, that if you take the PCI-Amiga combined with a high-end PC, it's going to be faster than any Amiga Commodore ever released, because the PC is going to do all the display and a number of other things, like the disk I/O. So, as an Amiga, as long as you use the PCI-Amiga hardware solution, the Amiga is going to be extremely fast, and might, for that reason alone, be quite attractive.

AC: But the whole goal here is the 5.0, which you intend to have out in 18 months, correct?

AH: That's right. Everything I do between now and the end of '99 is aimed at 5.0, and nothing else. What we are doing is creating a development environment that closely mimics release 5 systems. This combined with our other simulations allows us to get a head start on development prior to new silicon.

AC: As far as the performance specs, what kind of performance are we looking at in 5.0?

AH: In 5.0, there are a couple of different numbers to look at. I think the key thing to realize is that the next generation Amiga is multimedia centric just like the Amiga Classic. It's delivering real-time multimedia in every single way you can imagine, all at the same time. Let me give you a couple of examples. The Classic Amiga, for instance, was mainly 2D graphics, video and 8bit audio. The new Amiga is delivering 2D graphics, very high performance 3D graphics, streaming MPEG II video, and AC-3 surround sound, all at the same time.

(continued on page 47)

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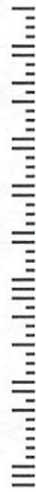
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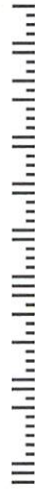
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